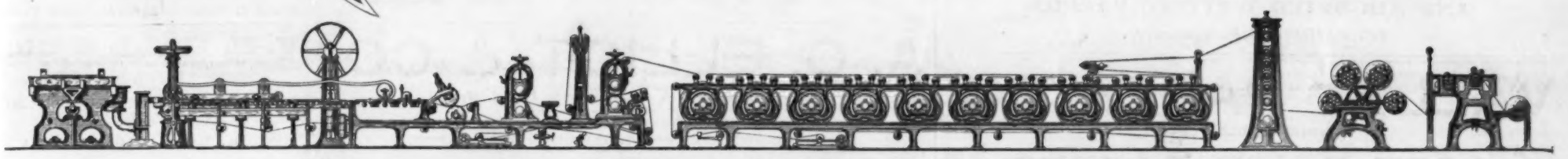
# The Paper Trade Journal.



"The Consumption of Paper is the Measure of a People's Culture."

VOLUME XV.—NO. 41. NEW YORK, OCTOBER 9, 1886. WHOLE NUMBER 649.


## Trade Topics.

### Extracts From a Millwright's Diary.

[WRITTEN FOR THE JOURNAL.]

BY JAMES F. HOBART.

Jan. 2, 188—. Hired out to Smith & Co. for one year. Their mill has been "run into the ground" and extensive repairs have to be made; in fact it amounts practically to rebuilding the mill. For the past four years this mill has been run upon the principle that after a thing wears out it must wear in again.

Found the machine-room floor badly settled. The dryers were down, some of them all of four inches, and the first job was to jack up the stringers until they were level, then cut in over fifty posts to hold the stringers where they belonged. The machine-room was exactly over the tail-race, so we had a good chance to work as far as room was concerned.

The mill is driven by thirteen or fourteen water-wheels, ranging from 24 to 60 inches in diameter, which will nearly all need new steps and also new curbs, spouts and gates.

Jan. 10.—Have got the machine-room leveled and shored up. Had quite a time in getting it just right; would jack up a section until it was just level; then, upon raising an adjacent section, the posts under the first section would be loose and the floor too high. The matter was finally adjusted by cutting all of the posts three inches short, and placing two nice oak wedges, each two inches thick, upon each post. A level with accurate sights was set up in one corner of the machine-room, and a staff was rigged for sighting, by which, when placed above each post, the stringers could be accurately leveled without the use of a straight-edge. When everything was level the wedges were fastened by driving pieces of iron through them into the machine stringers. Spikes were not used for this purpose, on account of the trouble necessary to remove them in case further jacking was necessary, so a hole was bored through each wedge and into the stringers, and a piece of round iron driven therein.

Jan. 15.—Am framing a new screen-frame. The old one has got rickety, and does not work well. I find that just as soon as the tenons begin to work in the mortises, trouble is sure to be had in getting stuff through the plates, and then the paper maker will insist upon changing the plates for every change he makes in running different kinds of paper. One mill in particular caused me no end of trouble from this alone. At all hours, in season and out of season, I would be called upon to get into that wet, slippery screen-frame to take off the cleat, which was fastened with brass screws all around the inside of the frame, close down on the plates.

This cleat was covered with felt where it rested on the plates and where it touched the frame, and served both to prevent leaking and to put a pressure upon the plates, which had been changed so many times that the bars underneath them were completely cut up by screw-holes. Every time the plates were changed, the holes not all being bored alike, it was necessary to plug the old holes and bore new ones for the screws.

The slow cushioned jar of the old loose-jointed screen-frame does not do the work of a sharp decided shake, upon which the working of the screen depends much more than upon the partial vacuum formed by raising the screen-frame, as is done by the cams.

A mechanic lately made a number of experiments in screening stuff by means of the vacuum alone. He constructed a rotary disk-valve, consisting of a plate containing several holes and fitted to revolve over a disk which contained one hole having steam connection with the boiler. The entire valve was enclosed in a steam-tight case, much like that of a small fan pump, and connection was made by another pipe with the air space beneath the screen-frame in the vat.

The valve was driven by a belt from the felt washer pulley. The effect of this valve, when running under steam, was to emit puffs of steam into the vat, and these puffs were delivered at about the same speed as the cams usually dropped the frame, but as the screen was raised clear of the cams. When the machine was started it was thought that the puffs of steam would condense when they struck the cold water in the stuff, thus forming a partial vacuum which was expected to do the business of screening stuff.

Well, the machine was started, and ran just four minutes and a half. The screen got full, and the stuff ran over on to the floor. The vat got empty, and steam puffed out all around the screen-frame. Then the machine was shut down and taken off. It can be seen to-day among the old junk of that mill, but neither the owners nor the mechanic before mentioned have since attempted to screen stuff by steam suction.

Jan. 20.—Have got the new screen to running. Have had no more fuss about changing plates, unless it is when a plate gets cracked and springs open, as sometimes happens. Have been greatly troubled by loose cams on the screen-shaft; have bushed the cam (shaft has been worn too small) innumerable times, but it will not stay. The "old man" says "It can be made to run;" but it is cheaper to fix the thing correctly, once for all, by cutting the shaft, welding in a new piece, upsetting to size, and having new cams made. However, the old shaft must run while a new one is being made, and I fixed it by making a bushing which would not go into the cam by 2-100ths of an inch, but which would slide nicely on the shaft. I heated the cam under the boiler, slipped the bushing into it, and placed the whole on the shaft, key in place, and then turned on cold water with a hose.

Jan. 25.—That cam has not started yet, and I cannot see that heating it had any bad effect on the chill of the lugs.

Making size has been called quite a job in most mills, and by the old methods it was certainly great trouble. All of the rosin had to be pounded by hand. Tubes were used and a wooden rammer for pulverizing the rosin, precisely as a druggist reduces matter to powder in his mortar. I made some oak boxes in which to pound up the rosin, and also made a heavy rammer to work in the oak boxes. The tubs first used soon got broken, but the boxes which were iron-bound and also doweled together, stood the racket as long as we needed them. The rosin and soda ash used to be boiled together in a barrel, and water was then added until the proper consistency was reached. I soon rigged up a power device for pulverizing the rosin, which reduced the time necessary for making size more than one-half. A common "cob cracker" was procured from a grist mill. The device consisted of a cone and a core, both covered with projecting cast-iron teeth.

Three teeth like those in a coffee mill were largest at the upper or large end of the castings, and were able to break up the large pieces of rosin. The finer teeth still further reduced the pieces until they were almost ground to powder. This device worked first-rate, and it was used and liked until the present method was instituted. Now the rosin and soda are dissolved in separate receptacles. A 200-gallon kettle was mounted six feet clear of the floor. This kettle was similar to those used for boiling tar, but it was fitted with a steam-jacket for applying heat. A "kettle trap," placed just below and to one side of the kettle, served to economize steam and to prevent the steam-jacket from being filled with water. The rosin was put into this kettle and steam turned on, no soda or water being put with it.

An unexpected occurrence was observed in regard to the melting of the rosin. When finely pulverized, by being run through the "corn-cracker," it required from fifteen to twenty hours' steady heat to dissolve. When broken to the size of stove coal the rosin melted in eight to ten hours, and when put in the kettle as it came from the barrel, only being broken sufficiently to permit of handling, it only required from one to three hours to melt.

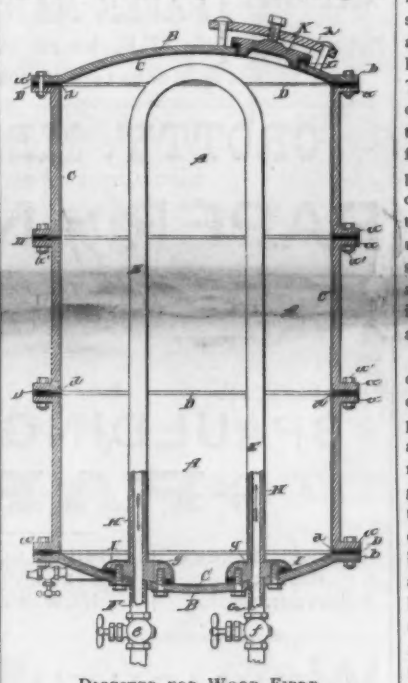
The soda was dissolved in a barrel near the rosin kettle. Just beneath the kettle was an iron tank which would hold about seven or eight barrels. The melted rosin being drawn through a valve and pipe from the kettle to this tank, the soda solution was strained into the tank, boiling hot, and immediately combined with the hot rosin without further boiling. The pounding box and rosin-grinding machine are not used now in this mill, and probably they never will be again.

(To be continued.)

### Digester for Reducing Wood.

The digester illustrated on this page is intended to overcome the difficulties heretofore experienced with different forms of linings for boilers used in the manufacture of bi-sulphite fibre. In this instance the boiler is lined with an elastic and acid-resistant enamel.

The boiler is composed of a series of united sections, A, and head-plates, B, said parts being of any suitable dimensions, and consisting of iron, steel or other suitable metal, as may be preferred, the sections and head-plates being respectively provided with flanges *a b* and interiorly coated with enamel C. This enamel is for the purpose of insulating the



DIGESTER FOR WOOD FIBRE.

metal composing the boiler from the acids employed or generated in the process.

The enamel is applied to the sections A and head-plates B in a liquid state, and these parts when dried are placed in a muffle and heated to a degree sufficient to fuse the enamel but not to melt the metal of which the parts are composed. The sections A and head-plates B of the boiler, having been enameled as described, are united by suitable bolts, *a'*, passed through their flanged portions *a b*, lead gaskets D being introduced between the opposing flanges in order to form a tight and acid-resisting joint. The enamel, when properly prepared, has the same quality of resisting the action of acid as is possessed by fine glass, and will expand and contract with the metal composing the boiler as heat is applied, without cracking or puckering. Not only are the interior surfaces of the boiler sections and head-plates coated with the enamel, but this coating is extended so far around on the flanges of the respective parts as to permit the lead gaskets to be placed between the enameled surfaces, as shown at *d*.

Heat may be applied to the boiler in various ways, but the illustration shows a continuous bent pipe, E, located in the boiler and suitably connected to exterior feed and exhaust pipes, F C, the latter having stop-cock, *e f*. In this construction the pipe E is provided at its terminations with extensions or feet, *g*, and is exteriorly coated with enamel H after the manner above described. The central portions of the pipe extensions or feet *g* rest upon the coated surface of the lower head-plate, and the outer portions of the extensions or feet are in the form of a flange, and between these and the head-plate a lead gasket, I, is inserted to make a tight and acid-proof joint. That portion of the cover K that fits the manhole in the upper head-plate has its interior surface coated with enamel, and between the flange *h* of the cover and head-plate is interposed a lead gasket, L, this coating and gasket being for the purpose described. Not only is this coating or lining of acid-resisting enamel applicable to the boiler or digester apparatus for reducing paper stock, but it is equally applicable to the tank and its connections for holding and storing the acids used in the operation.

Although the heating-pipe is shown as being made in a single piece bent at the top, in certain cases the pipe can be made in sections with flanges united similarly to the boiler flanges, with interposed lead gaskets, it being necessary, of course, to use non-corrodible bolts or to have their projecting surfaces enameled.

When more convenient, the digester may be provided with an exterior heating-jacket in lieu of (or in addition to) the inner heating-pipes.

In the process of applying the enamel to the metallic parts to be coated, the latter are first subjected to an acid bath to remove rust, scale, &c., and are then scoured with sand and rinsed off, and next put into a bath of hot lime-water, and then taken out and dried. The parts are then sponged off and the first coating of the enamel applied. The parts are then dried on top of a large range made therefor, so as to prevent oxidation, after which the parts are placed in a hot muffle and the first coating of enamel fused. After this fusion takes place the parts are removed from the muffle and allowed to cool, after which the second coating of enamel is applied, the parts again dried on the range, and then again put into the muffle, and the second coating of enamel is similarly fused.

A suitable composition for the first coating consists of, say, five parts of lime, ten parts of fluor-spar, five parts of sal soda, fifty parts of white sand or flint, fifty parts of litharge and twenty parts of boracic acid, all mixed and fused together, after which it is ground and mixed with water into a consistency like very thin paint. For the second coating the ingredients above described may be used, with the addition of ten parts of bone-ash, five parts of talc, and four parts of kryolite, similarly mixed together and melted into a liquid glass by strong heat, run into water, and then taken out and ground very fine, and then mixed with water and applied as before.

### Lead-Lined Boilers.

New forms of boilers designed for use in the reduction of wood to fibre by means of acid solutions are being constantly evolved, the purpose in each instance being to produce a boiler with an interior lining or surface which will resist the action of the acid and prevent corrosion of the shell.

Lead is the usually accepted lining, but its tendency to "creep," or, in other words, its expansion under heat and pressure without corresponding contraction when the expanding force is removed, is disadvantageous and impairs its usefulness. Various devices have been suggested to overcome this tendency and to make from lead an effective and comparatively durable lining. Two forms of boilers lately patented are deemed by their inventors to meet the objections hitherto made to the use of lead.

One of these boilers has the lead lining made in sections, for the purpose of causing the expansion and contraction to take place within such narrow limits that the liability to cracking or fracture of the lining may be reduced to a minimum and may be considered as practically removed. To permit the free expansion and contraction of the sections or pieces of the lining clear spaces are left between adjacent edges of the sections or pieces, and these are connected by means of lead rings, hoops or plates, curved in transverse section. When the lining is heated, the sections or pieces expand and their adjacent edges approach each other, the ring or plate being more or less compressed to permit this movement of the sections or pieces. The sections of the lining are secured in place within the boiler-shell by means of metal rings or bands, bolted or riveted to the shell, the curved plate or ring being so arranged that it will cover the heads of the bolts or rivets and protect them against the action of the acid.

The combination consists further of a lead rivet for securing the lining to the shell with means for strengthening or reinforcing the rivet and of a lead plate secured to the lining and covering the end of the rivet.

The second form of boiler is made of separate plates of iron which have received a thick coating of lead, an edge being left all around the plates which is to remain unlined; these plates are rolled into the proper shape, so that they will form sections of a boiler or other vessel and are then riveted together, the rivet-head having been, if desired, first countersunk in the iron plates to render them flush with their inner surface. The riveted spaces are then covered with lead and heat is applied to the outside of the boiler for the purpose of melting the lead applied to the inner surface, and also of melting the flux employed for this purpose. By these several processes the inner side of the boiler is said to be given a substantially homogeneous coating of lead.

### The Purification of Water by Alum.*

There is no subject which gives the manufacturer greater anxiety at times than the water which he is using in the works. Even where he is so lucky as to be located on the banks of some clear and sparkling brook, and hence is free from many of the troubles known to his less fortunate brethren, his brook may not seldom get into a troubled state and refuse to be clarified of its suspended clay and other matters by an ordinary process available to him. In no industry is this vexation from dirty water greater than in dyeing. Hence it is a matter of great importance, meaning a saving of hundreds and sometimes thousands of dollars, to have a simple means of clearing water so that it can be used in ordinary manufacturing processes, and yet not in any way injure the properties of the water for subsequent use.

For large works which use water requiring continual purification, some constant process should be employed.

In late years an extensive use has been made of alum in the many processes of purifying water, sewage, &c. It is not improbable that, aside from its effect in precipitating matter mechanically by envelopment within the precipitating basic aluminic sulphate, the alum exerts a distinct coagulative action on the albuminous substances in the water, rendering them insoluble, and thus causing their precipitation; perhaps the same or similar effect that alum produces in the tanning of leather.

Alum has the great advantage that it is cheap, can be obtained everywhere, and is not highly poisonous. Thirty grains can be given at a dose, and the dose repeated four times a day without danger. Then, again, it has another very great argument in its favor, and that is its cheapness.

To get practical results from the purification by alum it is evident that it must be added in very small amounts. The amount of alum used by Jeunet seemed to be unnecessarily high.

Sixteen gallons of the city water were treated with thirty-one grains of alum, and the whole allowed to stand. After forty-eight hours the precipitation seemed complete, and the bottom of the vessel was covered with a brownish, slimy deposit. This substance, after being dried, gave 59.28 per cent. of ash which contained silica and alumina in relatively large amounts.

The clear water gave no reaction for alumina, showing that there was no free alum in solution.

The addition of more alum to the water failed to produce any further precipitation, showing that all the matter precipitable by alum had been thrown down.

It may hence be inferred that the addition of two grains of alum to a gallon of water will clarify it by standing. Some waters may require less and some may require a longer standing than forty-eight hours, but this is a

* Abstract of a paper by Prof. Peter T. Austen, Ph.D., in *Textile Colorist and Chemical News.*

(*Continued on page* 489.)

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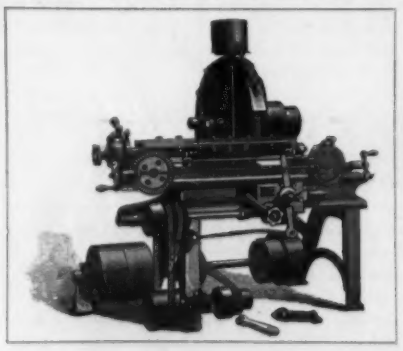

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## Holyoke Notes.

[FROM OUR REGULAR CORRESPONDENT.]

HOLYOKE, Mass., October 7, 1886.

Business has been very fair for the week ending to-day, with occasional orders of sufficient size to gladden the hearts of the recipients. A number of good-sized orders have been placed within a short time by publishing houses, and I hear of some which have been held by jobbers for some time that have just been placed for delivery on November 1. This looks as if they have come to the conclusion that paper will not be any cheaper, and it shows very good judgment on their part. Some of the manufacturers say that their business has been better so far this fall than it was last season, while others do not see much change either way. Fine writings are holding their own in the market, with prices steadily maintained. Book papers are in good demand at current prices, but now and then it is whispered that cutting under is going on in some directions, although none of the manufacturers will own that they sell for anything less than the quotations. Many of the mills are in possession of orders sufficient to last for the next few weeks. The stock market is a trifle more buoyant, but as a general thing sales are limited to present needs. The mills are carrying about the same amount of stock as usual.

The committee representing the proposed Paper Makers' Mutual Insurance Company met at the Massasoit House, Springfield, last night, seven members out of the thirteen being there. They were James H. Newton and Timothy Merrick, of this city; E. C. Rogers, of Springfield; H. W. Southworth, of West Springfield; G. W. Wheelwright, of Boston; A. N. Burbank, of Lawrence, and Mr. Duncan, of Hartford. The committee reported that it had secured subscriptions toward the proposed $1,000,000 of risks amounting to $600,000. After an informal discussion of the subject a sub-committee, consisting of Messrs. Wheelwright, Newton and Burbank, was appointed to still further increase the list, and as soon as their labors are ended a meeting will be called and an organization effected.

John E. Taylor, of Springfield, treasurer and manager of the Springdale Paper Company, of Westfield, has invented a process for embossing fine paper while in course of manufacture which is attracting considerable attention. By means of this process the expense which has attended this kind of work heretofore is done away with, as the embossing is all done before the paper leaves the machine, and the impression is said to be far more perfect than by the present method. Mr. Taylor has been experimenting with his new device for some time, and he finds that he can make more pounds of embossed paper a day than of plain. The samples of paper already shown are very creditable, and are finding a ready sale. In case Mr. Taylor's patent process is generally adopted by manufacturers, it will be bad news for several New York concerns which now do a lucrative business in this line of work, as it can be applied to all grades of paper and can be done much cheaper at the mill.

The Deane Steam-Pump Company has just finished the second of two monster pumps for the city of Vincennes, Ind. It has required about six months to build these pumps, and the two will cost $20,000. The one now in the shop is of 125 horse-power, and has a capacity of two and one-half millions of gallons a day. It stands thirty-five feet high and the engine, which is a vertical compound condenser with automatic cut-off, is eleven feet high.

Charles Morana and Joseph More, two employees of the National Blank-Book Company, had a falling out over a small matter a day or two since and they finally came to blows. Morana drew a revolver and fired two shots at More, fortunately missing his aim each time. Morana disappeared after the shooting and the police have not been able to discover his hiding-place.

The Eleventh District Congressional Convention met at Greenfield on Tuesday and re-nominated Congressman William Whiting without a dissenting vote, which is a well-deserved compliment to Mr. Whiting. He will be re-elected by a large majority.

R. M. Fairfield, of the Whiting Paper Company, has sold to W. T. Dean one of his fine residences on Fairfield avenue. The Water-Power Company has sold to Uriah Blake, superintendent of the Dickinson & Clark Paper Mill, a house at Beechlawn for $2,800. Thomas Van Riper, foreman at the National Blank-Book Works, has bought a house of H. E. Gaylord, on Elm street, at South Hadley Falls.

Lucius Harlow is applying seven of his improved feeders to the calenders in the finishing-room of the Parsons Paper Company. Quite a number of the local mills are using Mr. Harlow's improved feeder.

Henry Glenn, formerly superintendent of the Connecticut River Pulp Mill, has bought H. C. Carrington's plumbing and gas-fitting business on Main street.

This city has a flourishing scientific club, with a score or more members, including a number of paper-mill employees, who meet twice a month to discuss scientific subjects. Last night the club was addressed by C. L. Prince, B. S., on "Corundum and Its Uses."

D. J. O'Neill, recently an employee of the Whiting Paper Company, has taken a position with the Union Paper Company.

The marriage of Paul Grimm to Belle Clarke occurred at the Church of the Ascension, West New Brighton, S. I., on Tuesday evening. A number of Mr. Grimm's friends from this city were present.

F. H. Chamberlin, of the Franklin Paper Company, is making an extended business trip through the West.

George Montague has accepted a position with the Sterns Paper Company. H.

## Boston Notes.

[FROM OUR REGULAR CORRESPONDENT.]

EASTERN OFFICE PAPER TRADE JOURNAL,
250 Devonshire Street,
BOSTON, October 6, 1886.

The reports of trade from the dealers' standpoint continue to be very encouraging. The city paper houses are having a good business from day to day and are moving paper in large volume.

Paper manufacturers seem to be "full" of orders and in consequence mills are running full time. A gentleman long experienced in the manufacture of paper, and having an extended acquaintance among the manufacturers of New England, lately returned to the city after a few weeks' travel among the paper-mill cities and stated to the writer that the conditions of the paper industry as he found them were better this fall than he had known them to be for some years past. So far as the daily consumption of paper is concerned it is a recognized fact that there has been a big improvement within the past two months, and there is no doubt but this improvement will be maintained until next spring. The next thing in order is a little advance in prices and this may come sooner than some people think.

Paper-stock importers report a little movement in rags at this port during the past week, due to the fact that some paper makers prefer to take advantage of the facilities of this market, since the conditions of the rag trade are now more favorable as regards disinfecting regulations. Prices are still very low and there is no speculative feeling, the little improvement noted in the movement of rags being occasioned by the port facilities.

The late order of the Boston Board of Health, which took effect from October 1, so far as the order refers to rags, is as follows:

*Ordered*, That on and after October 1, 1886, any vessel arriving at this port, which has on board at the time of her arrival, or has had during her passage to this port, any sickness of a contagious or doubtful character which may be detrimental to the public health, or which has on board any rags, paper stock or any other cargo or personal baggage which has come from or has been in any port or place which has been epidemically infected with any contagious or infectious disease within the six months previous to such arrival, shall be anchored at quarantine.

All old rags will be regarded with suspicion and detained by the port physician, unless accompanied by a certificate of the United States consular officer at the port of departure that such rags were not gathered, or baled at, or shipped from any place which has been infected with any contagious or infectious disease in an epidemic form within six months prior to the shipment of said rags.

Infected persons found on such vessels shall be removed to the hospital on Gallop's Island, and there detained until all power to infect others shall have ceased. Cargoes and personal baggage, which in the opinion of the port physician or the Board of Health may be infected, shall be removed to the storehouse on Gallop's Island and there disinfected, when such disinfection cannot be properly done on board the vessel. No such vessel shall proceed, nor shall her cargo, or any part thereof, be discharged, nor any person be allowed to go on board or to leave her while in quarantine, without the written permit of the port physician, who is hereby authorized and instructed to take such measures with regard to said vessel as, in his judgment, the health of the city may require.

* * * * * *

By order of the Board of Health,
S. H. DURGIN, Chairman.

The rags reported this week seem not to have aroused the suspicion of the board and they were discharged without interference from the health authorities.

The chemical market is reported in good condition, bleaching powders being the speculative commodity in this line. Quotations on bleaching powders are given at 1¼c. to 1.80c. and firm. Other lines of chemicals are without much change in quotations. There is a good jobbing demand for most chemicals, spot supplies being small, as very little is going into store.

The receipts of chemicals for the week to

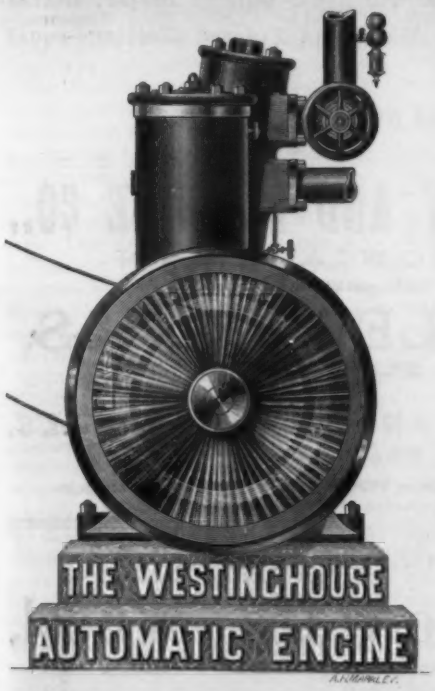

ROLL PAPER FOR PERFECTING PRESSES.

THE GLEN MANUFACTURING CO.,
Mills at Berlin Falls N. H.
H. M. KNOWLES, Treasurer.

THE HAVERHILL PAPER COMPANY,
Mills at Haverhill, Mass.
I. B. HOSFORD, Treasurer.

DAILY PRODUCT: 60,000 Pounds Finished Paper; 50,000 Pounds Wood Pulp, Dry Weight.

OFFICE: 64 FEDERAL STREET, BOSTON, MASS.




THE WESTINGHOUSE MACHINE CO.,
OF PITTSBURGH,
— MANUFACTURERS OF —
THE WESTINGHOUSE AUTOMATIC ENGINE
— AND —
THE "JUNIOR" AUTOMATIC ENGINE.

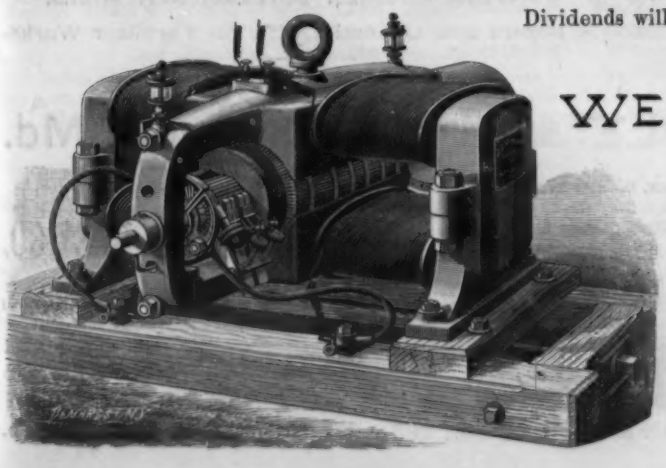
ENJOYING THE LARGEST MARKET OF ANY ENGINE MANUFACTURED IN THE UNITED STATES, we shall further enlarge it by a Rebate to the Purchaser of a share of our earnings in the shape of a GENERAL REDUCTION IN PRICE. The First Reduction is now in effect, and others will follow as results warrant. All our Latest Improvements are in force.

THE "JUNIOR" AUTOMATIC ENGINE is a Special Design for the Legitimate Low-Priced Trade. Sizes, 15, 25 and 35 H.-P. only, which we SELL AT A PRICE THAT CANNOT BE MET by the Cheapest Throttling Machines. Forged Steel Shafts and Rods. Well built and serviceable. Add to the above, Absolute Uniformity of Parts, a Priced Repair List, and 200 Engines always in stock, and our position in the Trade is invincible.

THE WESTINGHOUSE ELECTRIC CO., OF PITTSBURGH,

Is conceded to manufacture *THE "GILT-EDGED" INCANDESCENT SYSTEM.* Elegant Details for Isolated Plants. Trained Engineers in Steam and Electrical Departments. Undivided Responsibility.

THE CONSTRUCTION OF CENTRAL STATIONS is our special field, in which we are far in advance of all competition. Capital investing for Dividends will do well to close no Contracts until our System is investigated and our Proposals considered.



CONTRACTING DEPARTMENT FOR THE UNITED STATES IN CHARGE OF
WESTINGHOUSE, CHURCH, KERR & CO.,
*17 Courtlandt Street, New York, and 98 Fourth Avenue, Pittsburgh.*

FAIRBANKS, MORSE & CO., Chicago. | FAIRBANKS & CO., St. Louis. | D. A. TOMPKINS & CO., Charlotte, N. C.

AND FOR ENGINES ONLY:

PARKE & LACY, . . . . . San Francisco, Cal.
PARKE, LACY & CO., . . . . . Salt Lake, Utah.
ROBERT MIDDLETON, . . . . . Mobile, Ala.
KEATING IMPLEMENT AND MACHINE COMPANY, Dallas, Texas.
H. DUDLEY COLEMAN, . . . . New Orleans, La.

FOREIGN AGENTS:

IMRAY & CO., . . . . . Sydney, Australia.
R. ROGERS, . . . . . Paris, France.
J. PARKER READ, . . . . . Valparaiso, Chili.
TOMAS G. FOLEY & CO., Buenos Ayres, Argentine Republic.
F. E. AVERILL, . . . . . Delft, Holland.
J. ARCE & CO., . . . . . Mexico, Mex.
PAUL GIRARDONI, . . . . . Vienna, Austria.
CARBONE & GIRARDONI, . . . . . Genoa, Italy.

Licensed Manufacturers for Great Britain and India: ALLEY & MACLELLAN, Glasgow, Scotland.

date include 1,050 casks of bleaching powders, 499 drums of caustic soda, 15 casks of alkali and 280 barrels of soda crystals.

Of paper stock the imports for the same time reached 1,483 bales and coils, classed as follows: 328 bales of rags, 201 bales of paper stock, 561 bales of paper waste, 231 bales of flax waste, 83 bales and 79 coils of old rope.

Miscellaneous receipts for the week include 80 bales of wood pulp, 302 bags, 23 bales of hide cuttings, 141 bales of old picker bends, 12 casks Southern clay, 50 casks of Venetian red and 460 barrels of rosin.

Among the visitors during the past week were Felix Salomon, paper-stock packer, of Harburg, Germany; S. T. Coy, of West Claremont, N. H.; Charles Robertson, of Bellows Falls, Vt.; Alexander Robertson o Montville, Conn., and Messrs. Colburn and Moore, paper makers.

Mr. Moore, formerly with S. T. Coy, of West Claremont, N. H., and Mr. Colburn, of Lawrence, Mass., have associated themselves together, and will start up the manilla paper mill formerly run by the Bradford Paper Manufacturing Company, Bradford, Vt.

C. M. Robertson is reported to be building a new stone mill at Montville, Conn., which will run on white papers.

J. Richard Carter, of Carter, Rice & Co., left Boston for Canada last week—but not to stay; he will be back again in a few days.

DELESDERNIER.

## Chicago.

[FROM OUR REGULAR CORRESPONDENT.]

WESTERN OFFICE PAPER TRADE JOURNAL, 114-118 La Salle Street, CHICAGO, October 4, 1886.

There is trade enough doing as to volume, more, perhaps, than at any previous time in paper circles, but profits are said not to be any way in keeping with the extent of sales. All efforts to get an increase in prices so far have not met with any degree of success. The immediate cause of such a state of affairs is said by some to be overproduction, and again others would lead you to believe that the prime cause is that certain manufacturers and dealers are sending their drummers all over the country selling to everyone and everywhere, and as a consequence there is great cutting and the old rule of protecting dealers is lost sight of, and "the root hog or die" policy is brought into action.

The Merrill & Houston Iron Works plant, of Beloit, Wis., has been purchased by F. Mussie and others. The works are being refitted, and the business of paper-machinery building, chilled rolls, &c., will be continued, besides general machinery and foundry work. This is an old-established business, widely and favorably known, and its new management promises to leave nothing undone to perfect all of its machinery and asks for the remembrance of the trade when wanting anything in this line.

The friends of Elmer Ustick, traveling salesman for the J. W. Butler Paper Company, will be pleased to learn of his "new venture," one befitting to his station and in keeping with the true road to happiness. He has taken unto himself a wife this fourth day of October, 1886. The newly-married couple will make their home at Toledo, Ohio.

W. C. Rogers, the representative of H. E. Mead & Co., left last week to make a business trip out West.

Bradner, Smith & Co. are making some needed alterations in their business office. Mr. Rice, the secretary, will not be so approachable in the future, but he is in reach of all wishing to do business with him.

G. Henry Whitcomb, of the Whitcomb Envelope Company, Worcester, Mass., is spending a few days in the city on his way to Des Moines to attend the Congregational Convention being held there.

The O. E. Merrill Company, Beloit, Wis., manufacturer of paper-mill machinery, speaking of the business being done in the way of repairing, refitting and rebuilding mills, points to many mills where the machinery bearing its stamp is doing good work. Among these may be mentioned the mill of the Marietta Paper Company, of Georgia, which is built on the site of that destroyed by General Sherman during his Atlanta campaign. The mill has a 76-inch Fourdrinier machine, made for its special use, a cone driving-train, with the Hill patent clutches for calender, and wire. The machine has a capacity of four tons a day.

David Tyler, the father of W. O. Tyler, died at his residence, 2222 Michigan avenue, on Sunday night at eleven o'clock, in his ninetieth year. Mr. Tyler came West in 1860, locating at St. Charles, Ill., shortly afterward moving to Chicago, intending to engage in business, but sickness prevented the realization of his hopes. Mr. Tyler leaves five sons and one daughter, all grown. His children all took to the paper business, and have shown rare ability. The remains will be buried at Graceland Cemetery on Wednesday at one P. M.

NOZ.

The Champaign Twine and Bagging Company, Champaign, Ill., has been placed in the hands of a receiver. The liabilities are estimated at $75,000, and nominal assets $150,000.

## Water as a Motive-Power as Applied to the Turbine Wheel.

Since it has been fully demonstrated that the turbine wheel under certain conditions is the most effective and useful agent in utilizing water as a motive-power, I shall endeavor to point out those conditions as far as my observation and experience have led me. On large streams, where an abundant supply of water is always to be had at all seasons of the year, it needs no argument to prove that any well-constructed turbine is the best and most economical motor. It is not my object to designate any particular make of turbine wheel as the best or poorest, but to point out in a general way the advantages and defects of the average wheel.

But very few streams at the present time are inexhaustible, and even some of the rivers that have been considered as such have within the past few years not only failed to furnish the usual supply, but have dwindled down in the summer to nearly or quite one half of their average quantity, and manufacturers who have heretofore had a surplus are now obliged to economize severely. It is an old maxim with millers that "to get the power of a turbine wheel it must be filled." The experiments of the best hydraulic engineers, both in France, England and the United States, of such men as Morin, Emerson, Francis and Webber have shown, and all agree in their reports that the average turbine wheel, with full water, will return a useful effect of from 75 to 85 per cent., while the same wheel, with half water, will not give more than from 40 to 45 per cent. of the same.

To get the best results, a turbine wheel should be so constructed that the gate chutes or guides that admit the water to the wheel should be so proportioned that the water may strike the wheel in a direction opposite to the curve of the buckets, and deliver to the wheel just as much water as the wheel will discharge and no more. Then both the forces of percussion and reaction will be brought into requisition. The water from the chutes will impinge upon the bucket, and the force of percussion is here obtained; as the direction of the water is changed so as to enter the wheel in an opposite direction, the force of reaction is brought into requisition, and if the wheel is properly constructed and running at a proper speed, by the time the water is discharged its force should be nearly spent, and, instead of spouting from the wheel, it should be dropped into the pit nearly in a perpendicular direction and with no more velocity than is necessary to get rid of it. If, on the other hand, the chutes, gates or guides are so large that more water will be admitted than can be discharged, the force of percussion is lost just in proportion to the quantity of water, and such wheels work mostly by reaction. The same thing is true if the chutes are too small and less water is admitted than the wheel can discharge; the water impinges upon the bucket, but as the quantity is less than the wheel requires, it passes through it with less velocity and the full force of reaction is not obtained.

To illustrate this, we will suppose a pipe, say four inches in diameter and ten feet long, to be filled with water, the upper end plugged up so as to exclude the air, and the lower end immersed in standing water. The consequence is, the water will remain in the pipe. Now, if the plug is removed so as to admit the air, the water will descend with whatever velocity is due to its head; but suppose, instead of removing the plug, we bore a hole through it of one-half the area of the pipe, the water will descend with only one-half of the former velocity. A turbine wheel works precisely upon this principle; the chutes and buckets represent a tube that is always filled with water; the gates represent the opening in the top, and the power utilized from a given amount of water under a given head depends upon the velocity with which that column of water descends. If the chutes and buckets are in proper proportion the highest results are obtained.

The various manufacturers of turbine wheels have experimented upon various curves and forms until it would seem that as great a percentage of useful effect from a full column of water has been obtained as is possible; but after all the loss of power at partial gate, which operates the same as boring a small hole in the plug just referred to, is yet a serious detriment to the best of turbines. Experience has proved that if a wheel using 1,000 cubic feet of water per minute will give 80 or 85 per cent. of useful effect, the same wheel, with 500 cubic feet, will not give more than 40 to 45 per cent. of the same. Now, if the first wheel be replaced by one of just sufficient capacity to use 500 cubic feet, the same percentage of power will be obtained as in the former case, with the larger wheel.

There is another thing to be taken into consideration. A turbine wheel may be tested with full water and give a high percentage of power. But how many wheels are there in everyday use that are run with full water? There must be some surplus to regulate by and for other contingencies, and in actual everyday use the average wheel is run a greater part of the time at three-quarters or seven-eighths water. We say water instead of gate, for with most of the turbines now in the market the gate opening is no criterion to go by, as most of the gate openings represent nearly double the discharge of the wheel, so that half-gate may represent seven-eighths water, more or less.

There is no doubt but that the inquiry of late years for wheels of greater efficiency at partial gate has led many of the manufacturers to increase the size of their gate openings, so as to show better results at half-gate, regardless of the quantity of water used. In the published statement of one firm we find the following: With full gate using 2751.87 cubic feet of water, .867 per cent. was claimed; half-gate using 1996 cubic feet of water, .664 per cent. was claimed; three-eighths gate using 1621 cubic feet, .531 per cent. was claimed. Now, it is plainly to be seen that this wheel at half-gate would use nearly three-fourths of water, and at three-eighths gate it was cubic 246 feet more than half of the water. Now, if this wheel was made as it should be, with gates sufficiently large to deliver to the wheel just what water it could discharge at half-gate, it should have delivered to the wheel 1375.93 cubic feet instead of 1996, and taking the same percentage of power, according to the quantity used, it would have given 40 per cent. instead of 66 with half-gate.

Another wheel, the published test of which I have before me, showed the greatest percentage of useful effect at a point about half way between three-quarters and seven-eighths gate, and from that point to full gate it fell off nearly 10 per cent. I can account for this upon no other theory than that when it arrived at this point the gates delivered to the wheel just what water it could discharge, so that both the forces of reaction and percussion were brought into requisition; consequently it was then working to its best advantage. More opening of the gates delivered more water to the wheel than it could discharge, and a portion of the force of percussion was lost, and the wheel was then working by reaction principally, and a consequent loss of power. Such wheels, no matter whom they are manufactured by, are calculated to mislead the purchaser who purchases them on their alleged efficiency at half-gate, only to find in the end that, as far as the quantity of water required to run his mill is concerned, he is no better off than he was with the old wheel which he had taken out.

It has been suggested by some manufacturer who fully understands this matter that to get the best results from a water-power at all seasons of the year two or more wheels should be used, so that in low water one or more could be shut off, giving those that were running the advantage of running with full water. This, no doubt, is one way of accomplishing a very desirable object. But the expense of several wheels, the cost of maintaining them, and the leakage and necessary change of gearing have been found to be serious obstacles in the way of adopting this plan.

The disposition of the American people seems to be to go from one extreme to the other. A class of small turbines has been introduced within a few years with openings sufficient to discharge a vast amount of water, and great efficiency is claimed for the same. As the power of all turbine wheels is based upon the quantity of water discharged under given heads, it is an easy matter to measure the water and figure up the power; but whether that power is really obtained or not is a question of considerable doubt. I propose to discuss this question, and give my views upon the merits of large and small wheels.—*C. E. Tompkins, in American Miller.*

## New Patents.

No. 340,245. Envelope-Blank Feeding Mechanism.—Francis H. Richards, Springfield, Mass., assignor of one-half to the Pratt & Whitney Company, Hartford, Conn.

No. 340,246. Mechanism for Creasing Envelope-Blanks.—Francis H. Richards, Springfield, Mass., assignor of one-half to the Pratt & Whitney Company, Hartford, Conn.

No. 340,247. Mechanical Movement.—Francis H. Richards, Springfield, Mass., assignor of one-half to the Pratt & Whitney Company, Hartford, Conn.

No. 340,248. Mechanical Movement.—Francis H. Richards, Springfield, Mass., assignor of one-half to the Pratt & Whitney Company, Hartford, Conn.

No. 340,249. Picker for Envelope Machines.—Francis H. Richards, Springfield, Conn., assignor of one half to the Pratt & Whitney Company, Hartford, Conn.

No. 340,250. Envelope Machine.—Francis H. Richards, Springfield, Mass., assignor of one-half to the Pratt & Whitney Company, Hartford, Conn.

No. 341,720. Paper Bag and Method of Making the Same.—Samuel Bayle, Philadelphia, Pa.

No. 342,091. Manufacture of Paper from Bark.—John M. Allen, New Bedford, Mass.

No. 343,345. Process of and Apparatus for Coating Paper and Other Fabrics.—Edward G. Sparks, Brooklyn, N. Y.

No. 343,673. Ammonia-Soda Process.—Edward W. Parnell and James Simpson, Liverpool, County of Lancaster, England.

No. 343,675. Recovery of Ammonia in Ammonia-Soda Manufacture.—Edward W. Parnell and James Simpson, Liverpool, County of Lancaster, England.

No. 343,714. Machine for Grinding Paper-Stock.—Friedrich Kurtz, Nieder-Marsberg, Westphalia, Prussia, Germany.

No. 344,120. Lead-Lined Boiler for Paper-Pulp—John Makin, Belfield, near Rochdale, County of Lancaster, England, assignor to Charles C. Springer, trustee, Yarmouth, Me.

No. 344,965. Coating Paper with Paraffine.—Warren B. Howe and Mark D. Knowlton, Chicago, Ill.


WOOD PULP, STRAW PULP,

—AND—

ROTARY ✣ BLEACHING ✣ BOILERS.

THOSE WHO HAVE UNSAFE ROTARY BOILERS IN USE CAN EXCHANGE THEM FOR THE Loring Patent Rotary, and can be furnished with abundant evidence that the Loring Boiler is absolutely safe, and the only safe Rotary Bleaching Boiler in use. For the production of chemically prepared wood pulp it has been found extremely difficult to make a boiler that would remain absolutely tight for any considerable length of time. I have accomplished this result by adopting modes of construction far in advance of the best methods for producing first-class boiler work, in combination with substances and methods entirely independent of boiler work, and only known to myself. I invite special inquiries in regard to my patent WOOD-PULP BOILERS, patent STRAW-PULP BOILERS, and Rotary Bleaching Boilers; also to my patent process for extracting water from wood and straw pulp, and to my improved Fibre or Drainer Tanks, and Fibre Valves. The common steam-boilers built by the undersigned have proved more durable and safer than those of any other manufacturer in the United States. Steam-boilers, now in good condition, that have been in constant use twenty-eight years, can still be seen in use in Boston. Not one of the many thousand boilers, varying in weight from one half to forty tons, has ever exploded or given out, to cause injury to a single person or to one dollar's worth of property, during the twenty-eight years.

*HARRISON LORING, Boston, Mass.*

NOTICE.—I have been informed that irresponsible boiler-makers have offered to build Rotary Boilers with whole wrought-iron heads and a hollow journal, which would be an infringement of my patent. Such boilers will be made by the undersigned at low prices—having special tools for the work—and no extra charge made for the patent-right, which would have to be paid by the user if made by an unauthorized person.

HARRISON LORING.

VERNON BROTHERS & CO.

PAPER WAREHOUSE,

65 and 67 Duane St., New York.

Manufacturers of the following Brands of Writing: Alleghany, St. Lawrence, National, Bay View, Congress, Windsor, Neptune, Castle, Durand & Co., and Palisade Note, Letter, Foolscap, Legal and Bill Cap Papers.

Manufacturers of the Vernon Paper Co.'s Ledger Paper, United States and Washington Flats, Superfine and Fine Flat of all sizes, White and Colored French Folios, Colored Flat Caps and Folios, Buff and Gold Envelope Papers, Engine Sized Flat Papers of first, second and third qualities, for Blank Book Manufacturers.

Manufacturers of Colored and White Tissue Papers and Tissue and Manilla Copying Papers.

Manufacturers of Rope and Jute Manillas of all sizes, Tissue Manillas, 16, 20 and 24 sheet count; Seidlitz Paper, Hardware, Machine and Super Calendered Book and News, Colored Poster, Glazed Cover; Diamond, all Rag, White and Colored Blotting—equal to any manufactured.

Importers of English White and Silver Ware Tissue.

FARREL FOUNDRY AND MACHINE CO.,

ANSONIA, CONN.

The Largest Makers in the world of

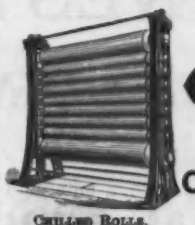
CHILLED ROLLS,

FOR PAPER,

ALSO,

CHILLED AND DRY SAND ROLLS,

FOR ALL OTHER PURPOSES.



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All our Rolls are ground by the Poole Grinder, which guarantees their perfectness and finish.

☞ Old Rolls Reground at Short Notice.

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Leffel Turbine Water-Wheel,

Made of Best Materials and in the Best Style of Workmanship.

MACHINE-MOLDED MILL GEARING,

From 1 to 20 feet diameter, of any desired face or pitch, molded by our own Special Machinery.

*Shafting, Pulleys and Hangers*

OF THE LATEST AND MOST IMPROVED DESIGNS.

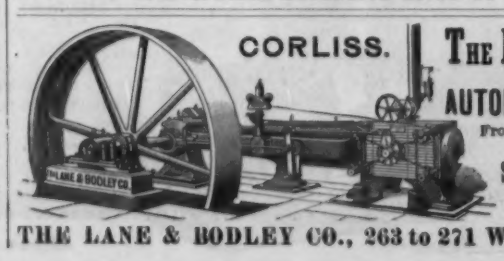
STEAM-ENGINES, BOILERS, SAW-MILLS,

Mixers and General Outfit for Fertilizer Works.

☞ Shipping Facilities the Best in all Directions.

POOLE & HUNT, Baltimore, Md.

N. B.—SPECIAL ATTENTION GIVEN TO HEAVY GEARING.

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AUTOMATIC CUT-OFF ENGINES,

From Heavy Patterns and of unequaled workmanship.

Steel Boilers, Feed Water Heaters,

SHAFTING, PULLEYS and GEARING.

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(*Continued from first page.*)

matter very easily determined for any particular case which may arise.

The water, after precipitation has taken place, is perfectly clear and sparkling, and has neither taste nor smell imparted to it. For use in the dye-house there can be no possible objection made to it. The most practical way of applying this method in clarifying water for use in manufacturing, where filters are not used, will be as follows: Two vats or hogsheads, or similar deep tanks, are filled with the water and treated with alum at the rate of half an ounce of alum for every one hundred gallons of water. The alum should be dissolved in a little hot water, so that it can be mixed with the large bulk of water without difficulty. The mixing can be done with a long-handled dyers' stirrer. A few minutes' stirring will suffice to mix the alum and the water very thoroughly. After the mixing has been done, the water should be allowed to stand undisturbed for forty-eight hours, or until the water clarifies, which can be easily seen by its appearance. If the clarification takes place in less time, so much the better. The water is now racked off for use. When the vat has been emptied to as low a level as is possible without disturbing the sediment, the plug in the bottom should be knocked out, and the vat cleaned out with a strong jet of water. The slimy deposit is easily dislodged and washed away by a stream of water. While one reservoir is thus being washed, the other is full of water precipitating, so that the supply is continuous. The best means of drawing the water from the tanks without disturbing the sediment is as follows: The pipe should enter the side of the vat and pass to the middle, and there be bent upward so as to end about a foot above the bottom of the vat. The water is thus drawn downward, and no agitating of the bottom is produced. If the pipe is turned toward the bottom of the vat, the current of water will disturb the sediment.

I think that this method will be found of very great value to many works which now have trouble with their water in the rainy season, and I can call to mind offhand several which could use it to advantage. A few trials with the beautifully clear water produced by the alum treatment will make the hands feel loth to go back to the natural water even at its best. I am quite certain that many streams not now available to the manufacturer can be made so by this treatment.

## Postal Regulations as to Mailing Samples.

In its issue of October 7, the *American Stationer* has the following to say in regard to sending out samples of paper, &c., under newspaper cover:

It has been remarked that foreign papers representing the stationery trade and paper-making interests are sometimes loaded with samples, such as can be contained within their pages, but that American journals do not give like facilities to manufacturers who would take advantage of them if permitted to do so. This is not a matter within the control of the trade papers under existing postal regulations. They would, if they could without incurring loss, give every opportunity for the transmission of samples of paper or other exhibits under their covers and will do so if manufacturers are willing to assume the expense thereby entailed.

Readers will concede that newspapers *must* conform to the laws and regulations of the postal service. There are several classifications of mailable matter and newspapers are rated as *second-class* matter, on which the postage is what is known as the "bulk rate," or one cent per pound. On the other hand samples of merchandise are designated as *fourth-class* matter, and must pay one cent per ounce to secure transmission through the mails. The postal laws provide that "when two or more kinds of mail matter of different classes are inclosed in the same package the higher rate must be charged on the *entire* package," and "second-class matter found upon examination to contain matter which is subject to a higher rate shall be charged at the rate to which the inclosed matter is subject." It is not difficult to see, therefore, that newspapers sending samples of paper, &c., inclosed within their pages or in the same wrapper will be charged with a high rate of postage entirely prohibitory, unless the parties wishing to derive the benefit are willing to meet the expense.

By way of illustration, let us take the fall and holiday issue of the *Stationer*, of September 9, and make comparisons. Upon our edition of five thousand copies, mailed as second-class matter, the entire postage amounted to $34.38, each copy of the paper weighing eleven ounces. Had we inserted in that number samples of paper which would have increased the weight, say four ounces, making fifteen ounces in all, the whole edition would have cost $750 for postage, an expense which we could not have been expected to assume, and which we do not suppose any manufacturer would have been willing to incur, the postage in such case being 50 per cent. greater than the retail price of the papers. We have therefore been obliged to decline sending out samples of merchandise—as such—under our wrappers, although they have been tendered for that purpose.

We understand, however, that the Post-Office Department will pass samples of paper at second-class rates, *provided* the samples are printed upon on both sides and *no mention* is made of the fact that they are samples. This we consider an evasion of the law, one valueless to the manufacturer who might wish to be known in connection with the sample, and of no practical benefit. The attempt may sometimes be made to "beat" the government, but manufacturers cannot afford to take such chances or to intrust samples to people who are ready to promise more than they can carry out.

## Early Engineering Reminiscences.

By George Escol Sellers.

When I went to the penitentiary with the dies and designs, Mr. Wood informed me that he had been unsuccessful in obtaining the concurrence of the inspectors, who believed the kind of work would keep the man in practice, and that on the expiration of his sentence he would resume his old business. Mr. Wood considered this absurd; "For," said he, "if the man lives and serves out his term, he will be considerably over eighty years of age."

The inspectors would not give way. Mr. Wood had not told the man of this decision, and preferred that I should do so, in hopes that by showing him the dies, and the preparations that had been made, he might be induced to talk more freely than he had done. As this was the last interview I had with him, and what was learned and resulted from it so far exceeded our expectations, to be understood it seems necessary to state some things that had been learned in regard to the man and his work through Mr. Biddle's amateur detective, and one of the hair-breadth escapes he made when in this pursuit, and the mode by which the man was finally secured.

Reliable facts learned were that although the man was living among counterfeiters and with them frequently shifting from place to place, he confined himself to certain portions of the work on the spurious plates, for fixed considerations, always exacting his pay in genuine money; that, when flush, he would sometimes go on protracted sprees until his money was exhausted, when he would return to his work; that, when on these spells of reckless dissipation, the counterfeiters kept a strict surveillance over him, fearing that in his drunken orgies he might divulge important secrets; that at that time he was with part of the gang working in a shanty on an island on the St. Lawrence River. There the bank officer went, accompanied by a member of the band and armed with a forged letter of introduction, purporting to have been written by the master spirit of the gang as he was leaving the country for an absence of some weeks, representing him to be an expert penman, who would prove to be a valuable auxiliary. After a few exhibitions of his ability he was heartily received among them, and for some days worked alongside of the man he had ventured so much to secure. He soon made himself familiar with all their appliances and learned many important secrets, but he failed to find any way of convicting without his own testimony, and to give that, divulging his identity as a bank officer, would simply be signing his own death-warrant; for such was the desperate character of the gang. Feeling greatly discouraged, not knowing which way to turn, early one evening he threw himself into his bunk in the working-room, only separated from the living room by a thin board partition. He fell into a troubled sleep, from which he was awakened by unusual sounds from the adjoining room. He was soon aware that there was an unexpected arrival; he distinctly heard an unfamiliar voice say: "This letter is a forgery; I gave no one an introduction; the man is a fraud or a detective, and we must run no risks; we must 'fix' him at once, so he can tell no tales." This was hint enough, and he was not slow to act on it. He slipped out of a window, and although the river was running full of cakes of floating ice he threw his boots and hat on the bank and took to the water. It was a desperate swim, but fortune favored him; for after over an hour battling with the cakes of ice he landed on the Canadian shore, fully two miles below, nearly frozen to death, but, fortunately, near a cabin, to which he dragged himself and found shelter for the night. A spurious story of wreck of boat and loss of companion satisfied the simple people, who gave him a bed and, while he slept, dried his clothes. In the early morning a store at a near railroad station furnished boots, hat and a rough overcoat—a little money paid for services rendered him, and before night he was comfortable in the St. Lawrence Hotel at Montreal, where he had left his baggage when he started on this desperate island adventure. For safety it was necessary that the counterfeiters should have evidence of his having been drowned. Keeping his room for a few days, consulting with the head of the police and a prominent member of the medical faculty, a corpse was procured, dressed in the clothes he wore on his escape from the island. In the pockets were put such small tools as would identify the body, which was represented as having been taken from the ice in the river. The knowledge obtained on the island enabled the police to make a certainty of having some of the gang view it, as well as the clothes and pocket findings. This being done, the bank officer was safe, as the sequel proved; for, within a year, in the guise of a manufacturer of spurious money and an expert in raising notes to a higher denomination, he was again in contact with the man—this time at Charleston, S. C. He then, by a liberal advance of money and promises of high price for work, induced the man to come to Philadelphia, where he represented that he had rooms in which the work could be done, so arranged as to defy detection. The first lathe work required was for a $10 bill of the United States Bank. This he refused to do, but would execute entire a $5 bill, saying that by the bank charter they were prohibited using notes of a less denomination than $10 after a certain date; that imitating an illegal issue was not counterfeiting. It was while the proof impressions of the $5 bill were being taken that the police broke in, securing both employer and workman, with all the machinery and tools and a partly-finished plate of $10 denomination found on the work-bench.

I have seen the room where the work was done and the arrest made, and all the ingenious devices for concealing work, machinery and tools, and the arrangement for escape of operators, apparently perfect, but which proved as perfect a trap as could be devised. When the man sprang for what he believed a certain way to escape, and was met by revolvers in the hands of resolute men, it was natural that his suspicion of treachery should centre on his red-haired employer and fellow workman, whom he saw so desperately struggling with his captors.—*American Mechanist.*

(To be continued.)

## Burning Edgings and Other Refuse.

By James F. Hobart.

Where one mill uses a dust-burner now, ten mills used them ten years ago. With some mills using water as a motive-power it may be necessary to burn refuse in order to get rid of it, but before ten years more have passed the writer expects to see every particle of waste wood utilized for making steam. Even if not needed to furnish power for the mill, it would pay an enterprising manufacturer to locate beside the sawdust chute of a mill and depend thereon for fuel. In many mills where dust is now used for fuel the conveniences for getting it beneath the boilers are very crude, and are often found to be nothing better than a three-bushel basket and a shovel. Dust may be easily handled or conveyed by spouts 12 inches wide and 3 or 4 inches deep, having an endless chain running therein and buckets 1 inch thick at distances varying from 1 to 4 feet, according to the quantity of dust to be conveyed. The links of this endless chain may be made of 1¼-inch bar-iron, 10 inches long, joined together by links of ⅜ or ½ inch round iron 5 or 6 inches long. Let square pulleys be used for carrying the conveyor chain, the sides being wide enough to receive the flat links, while the round ones are received by corners of the pulleys, which are chamfered off 5 or 6 inches to receive them. The buckets can be riveted into the flat links, and the buckets being made 9 inches wide and tapered to 3 or 4 inches at each end, straight edge running forward, they will stand a large amount of hard usage before going to pieces.

Another method of conveying dust is by means of a blower. When shavings are made in the mill and can be mixed with sawdust, the blower will work first rate, but with sawdust alone considerable pressure of blast is necessary to move the heavy stuff along. In a mill where shavings are made there are usually edgings to get rid of which must be got under the boilers by some means. It is poor policy to make a fireman keep the furnace doors open while he throws in hundreds of edgings, which he must first pick out from a tangled mass of edgings, shavings and sawdust, lying altogether, just as it was dumped into the boiler-room. In some mills all the edgings are tied into bundles about six inches in diameter by ordinary tarred strings, such as are used in bunching lath. The trouble with this method is the time consumed in bunching and tying up, also in engineering a bundle into the furnace. Often the string will burn off, letting the front end of the bundle spread out like a fan, and render it almost impossible to get the edgings where they are needed. Long edgings also cause trouble. They are bunched with the short ones, and the bundle has to be shoved up over the bridge wall in order to shut the furnace door. The best way to fire edgings is to run them through a "breaker" and then shovel them into the furnace with the dust and shavings. The breaker consists of a strong frame, with which is connected a spout for putting the edgings into. If the breaker can be placed on the floor below where the shavings are made they will feed themselves by gravity into the breaker. In the frame just below the spout a 6-inch feed-roll seizes the edgings as they come down. A fluted roll is the correct thing, but in one machine built by the writer this kind of a roll was not attainable, so an ordinary smooth feed-roll about twelve inches long was used, and its surface was drilled full of ⅝-inch holes and steel studs were driven therein and allowed to project ⅜ to ½ inch and filed square across their projecting ends. Just below this feed-roll, which revolved about 200 revolutions per minute, the breaker itself was hung. This part of the machine was simply a casting mounted on a 3-inch shaft. The casting had four projecting arms or lugs, say 2 inches thick, 4 inches drill and 12 inches, on the whole length of casting, long. As the edgings were carried down by the feed-roll, the lugs on the breaker caught and broke them into short pieces by cramping them against an iron made fast to the frame between the breaker and the feed-roll. The breaker runs 375 or 400 per minute, and, allowing for strips of edgings by the feed-roll, will break edgings into pieces 3 inches to 8 inches long. When in this condition they are easily shoveled into the furnace with sawdust, shavings or any other refuse.

Pine, spruce, black walnut, hemlock, cedar and, in fact, all the soft or brittle woods, may be easily broken with one of these machines, but for oak, hickory, maple and other hard woods, the writer has been in the habit of making an automatic sawing machine to cut the edgings and little slabs into short pieces. For this purpose an inclined spout was built pitching from 30° to 60°, according to location and available space where it was to be built. A number of line-rolls were placed in this spout, and also three line tops or pressure-rolls of large diameter, all geared together. The top rolls were hung in frames and had a vertical movement of six inches. A ratchet-gear received motion from a swinging lever carrying a disk, and each movement of the lever advanced the surface of the feed rolls about six or eight inches. An ordinary swing or railroad saw was mounted to cut at the end of the spout, and motion was given to the saw-frame by a crank and lever so that it cut while the ratchet-lever was on its dead centre. By a set of cone or stop pulleys this saw was made to take twenty, forty and sixty cuts per minute, and it was found most convenient to use the forty speed on soft wood, reserving twenty for harder kinds. Doubtless a rig of this kind could be made to work well, dispensing with the line feed-rolls altogether, by placing the saw horizontally under a perpendicular spout, and rigging a rest for the edgings to bear upon, a pressure-bar to seize the edgings while the saw is cutting, and mechanism to remove the rest to one side while the pressure-bar holds the edgings to be cut while the saw is traveling up and back. It stands for some enterprising builder of wood-working machinery to build some of these machines and place them on the market. A demand would at once be made for them.


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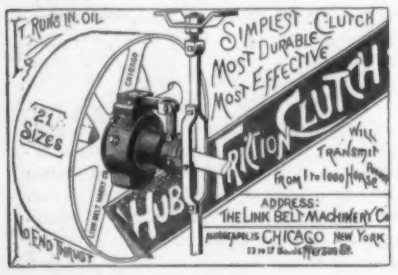


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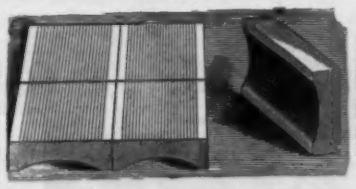
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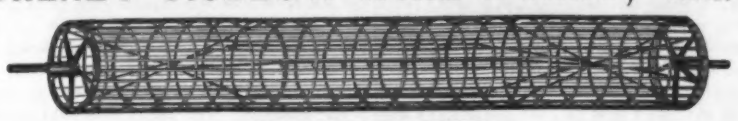
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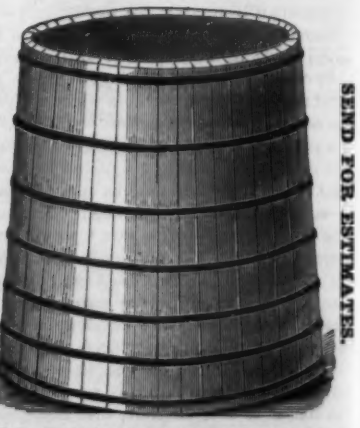
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P. SURY, sole agent of Israel Brothers, Dresden, German Grindstones. 11 Dey Street, New York.

### Jute Butt Brokers.

CABOT, RAY & CO. 81 Water st.

DALAND, WILLIAM S., 124 Water st., N. Y.

HANSON, CHARLES A. 97 Water st.

TUCKERMAN, G., 72 Beaver st., N. Y.

### Note Broker.

COLBY, C. A., Buys and Sells Notes of Paper Manufacturers and Dealers, 23 Nassau st., N. Y.

GOLDMAN, M., & SACHS, Mfrs. and Dealers of Paper. Negotiate the Notes of 4 & 6 Pine st., room 9.

### Paper Clay.

McNAMEE & CO., RICH'D. 234 Broadway, N. Y.

### Paper and Paper Makers' Supplies.

BELDEN & DEAN, Paper Bags, Flour Sacks, Manilla and Straw Papers. 166 Fulton st., N. Y.

BUTLER & JOHNSON, 44 Beekman st., N. Y.

CROTTY, MELVILLE & CO., Paper and Twine, 428 Broome st., N. Y.

HEWITT, C. B., & BROS., Printing, Wrapping, Building Papers. 48 Beekman st., N. Y.

HURLBERT, H. C., & CO., 53 Beekman st.

MURPHY, JOHN J., 47 John and 5 Dutch sts.

### Paper Manufacturers.

HAND, A. F., White and Colored Tissue and Copying Paper; mill at Peekskill. Paper Warehouse and office, 51 Beekman st., New York.

ORRS & CO., Printing and Hanging Mills at Troy. Roll Papers a Specialty. Office, 132 Nassau st., N. Y.

### Paper Makers' Chemicals and Colors.

RIKER, J. L. & D. S. 45 Cedar st.

SERGEANT BROS. 132 Nassau st., N. Y.

### Printed Wrapping Paper.

NUGENT, J. S. & Co., also Paper Bags and Boxes. 538 and 540 Pearl st., N. Y.

E. O. STEVES & CO., also Paper Bags, Boxes and Twines, Grand and Centre sts. N. Y.

### Rags and Paper Stock.

ATTERBURY BROS., 253 and 255 Front st.

BAKER, H. J., & BRO., Japan Rags, 215 Pearl st.

DARMSTADT & SCOTT, 319 Water st., N. Y.

FLYNN BROS., 61 Congress st., So. Brooklyn, N. Y.

GILDEA, PATRICK, 445 & 447 West 13th st.

HARLEY, CHARLES, Cotton and Woolen Rags, 362 Third st., New York.

HENNESEY, JAS., & CO., 62 Duane st., N. Y. Warehouses, 116, 118 & 114 Navy st., 233, 235 & 237 Tillary st., Brooklyn, and 314 N. 8th st., Brooklyn, E. D.

HILLS, GEO. F., & CO., 98 Gold st., N. Y.

HUGHES BROS., 60-66 N. 2d st., Brooklyn, N. Y.

LIBMANN, JOSEPH, & CO., New Rags a Specialty. 258 South Fifth ave., N. Y.

LYON, J. W., & CO., 44 and 46 Duane st., N. Y.

LYON, JOHN H., & CO., 10 & 12 Reade st., N. Y.

McQUADE, ARTHUR J., 535 and 537 E. 13th st., N. Y.

MORE & IRVINE, Rags, Paper Stock, Rubber, &c., 59-65 Goerck st., N. Y.

O'MEARA, M., 277 Water st., N. Y.

OVERTON, R. H., 8 Reade st., N. Y.

PEYTON, R., & CO., Paper and Paper Stock, 56 Thomas st.

ROZÉS BROTHERS, Tribune Building.

RUSSELL, M., Domestic Paper Stock of all grades. 30 City Hall pl.

SAVAGE, JAMES, Jr., 530 to 536 W. 38th st., N. Y.

SERGEANT BROS., 132 Nassau st., N. Y.

WARD, OWEN, & SONS, 448 & 450 West 39th st.

WYNNE, T. F., 13 & 15 Columbia st., Brooklyn, N. Y.

YOUNG, P., Washington av. near Wallabout Bridge, Brooklyn, E. D.

### Straw Boards.

HAYES, JAMES E., & CO. 75 Duane st.

JAEGER, GUSTAV L., Straw Boards, Lining and Box Machinery. 136 and 138 Mulberry st., N. Y.

MALLORY & CO., C. A., Straw Boards, Paper Box Machinery and Lining Papers. 83 Walker st.

## OUT OF TOWN HOUSES.

### Architects.

TOWER, D. H. & A. B.—Designs for Paper and Fibre Mills. Surveys and Plans for Mill Sites. Valuations of Mill Properties. Holyoke, Mass.

### Dandy Roll Manufacturers.

BUCHANAN, BOLT & CO., Patent Seamless Wove and Laid Dandy Rolls. Holyoke, Mass.

CHENEY BIGELOW WIRE WORKS, Springfield, Mass. Pat. Seamless Wove and Laid Dandy Rolls.

### Grindstones for Wood Pulp.

UNION STONE CO. (EMERY). Boston, Mass.

### Paper Manufacturers.

JERSEY CITY PAPER CO., White and Colored Tissue & Manilla Wrapping, Cornelison avenue and Montgomery st., Jersey City, N. J.

SCOTT PAPER CO. LIMITED, 27 N. 6th st., Philadelphia, Flour Sack, Building & other Manilla Papers.

### Paper Makers' and Paper Stainers' Colors.

HAMPDEN PAINT & CHEMICAL CO., Springfield, Mass.

### Paper Making Machinery.

SMITH, WINCHESTER & CO., South Windham, Ct.

THE SIBLEY MACHINE CO., Norwich, Conn.

### Rags, Paper and Paper Stock.

BULKLEY, RAIGUEL & CO. (Late with J. G. Ditman & Co.), 82 South Fifth and 500 and 502 Minor st., Philadelphia.

BUTLER, THOMAS, Cotton and Woolen Rags, Iron and Metals. 249 Causeway st., Boston, Mass.

ELLIOT, A. G., & Co., Paper and Paper Stock, 32 and 34 South Sixth st., Philadelphia.

FORESTELLE, P., 21 Wallace st., Bridgeport, Conn.

LANEY, JAMES, & CO., Dealer in Paper and Paper Stock, Cotton and Woolen Rags, Rochester, N. Y.

MAYO, A. N., & CO., Successors to Dickinson & Mayo, Rags and Paper Stock. Springfield, Mass.

### Rags, Paper and Paper Stock.

McKEON, P. & J., Dealers in Woolen and Cotton Rags, &c. 253 Fourth st., Brooklyn, E. D.

MILLET, GEO. W., Straw and Manilla Papers, Paper Bags and Flour Sacks, 507 N. 2d St., Phila., Pa.

RICHMOND & CO., F. H., Paper and Paper Stock Warehouse, Cotton Waste Dealers, Providence, R. I.

SIMMONS, JOHN, Wholesale Dealer in Paper and Rags, 20 and 22 Decatur street, Philadelphia.

SNIDER'S, LOUIS, SONS, Manufacturers and Wholesale Paper Dealers, 121 Walnut st., Cincinnati, Ohio.

WILLCOX, JAMES M. & CO., Wholesale Commission Paper and Rag Warehouse, 509 Minor street, Philadelphia, Pa.

### Screen Plate Manufacturers and Repairers.

ASHMUN SCREEN PLATE CO., old plates renewed; charges moderate. P. O. Box 210, Paterson, N. J.

HARDY & PINDER, manufacturers of Patent Cast-Metal Sectional Screen Plates. Fitchburg, Mass.

JUDSON, A. C., & WILLIAMS, successors to late Howard Judson, Holyoke, Mass., manufacturers of Patent and the ordinary Screen Plates.

### Straw Boards.

PINKHAM, T., agent for Androscoggin Pulp Co.'s White Box Boards and Ashland Leather Board, 24 Friend and 52 Elm streets, Boston, Mass.

TUCKER'S, E., SONS, Straw Boards, Paper, Twines, Paper Box Mach'y, 100 Trumbull st. Hartford, Conn.

## IMPORTS AT NEW YORK.

FOR THE WEEK ENDED OCTOBER 1, 1886.

| | | | | | |
|---|---|---|---|---|---|
| An. Colors.. | 275 | $21,048 | Paper..... | 410 | $22,162 |
| Alum..... | 14 | 399 | Steel Pens... | 4 | 1,665 |
| Alum's Cake | — | — | Stationery... | 13 | 1,101 |
| Bl. Powders. | 49 | 754 | Slate Pencils | 73 | 1,966 |
| Soda Ash... | 1,200 | 26,056 | Clay..... | — | 10,630 |
| Soda, Caus.. | 1,282 | 16,045 | Jute Butts... | — | — |
| Soda, Sal.... | — | — | P. Hangings | 8 | 1,549 |
| Ultramarine. | 72 | 3,130 | Paper Stock. | 3,182 | 28,503 |
| Books..... | 314 | 31,194 | Terra Alba.. | — | — |
| Newspapers. | 59 | 2,278 | Waste..... | 37 | 10,977 |
| Engravings. | 42 | 11,883 | Wood Pulp.. | 896 | 4,443 |
| Ink..... | 91 | 2,995 | | | |
| Lead Pencils | 23 | 4,329 | Totals.... | 8,014 | 202,407 |

Imports General Merchandise for the week ended October 1, 1886..... $6,969,592

## IMPORTS OF PAPER STOCK AT NEW YORK.

JANUARY 4, 1886, TO OCTOBER 5, 1886.

| | *Rags.* Bales. | *Old Papers.* Bales. | *Wood Pulp.* Bales. | *Manilla Stock.* Bales. |
|---|---|---|---|---|
| Alexandria..... | 5,619 | — | — | — |
| Amsterdam..... | 208 | — | 1,748 | 697 |
| Antwerp..... | 240 | — | 2,070 | 1 |
| Aspinwall..... | 450 | — | — | — |
| Avonmouth..... | — | — | — | 80 |
| Bordeaux..... | 360 | 107 | — | — |
| Bremen.....*a* | 719 | 280 | — | 2,599 |
| Bristol..... | — | — | — | 1,856 |
| Calcutta.....*b* | 748 | — | — | 1,800 |
| Christiania..... | 216 | 67 | 2,900 | — |
| Copenhagen..... | 1,985 | — | 16,161 | 423 |
| Dublin..... | — | 240 | — | — |
| Dundee..... | 263 | 4,737 | — | 12,196 |
| Genoa.....*c* | 1,751 | — | 87 | 559 |
| Glasgow..... | 70 | 1,695 | — | 984 |
| Gothenburg.....*d* | 190 | — | 4,368 | — |
| Havre..... | — | — | — | 157 |
| Hamburg.....*e* | 7,556 | 133 | 3,469 | 1,821 |
| Hiogo.....*f* | 17,460 | — | — | — |
| Hull.....*g* | 41,058 | 1,777 | 23,010 | 19,534 |
| Leghorn..... | 1,573 | — | — | — |
| Leith..... | 47 | 707 | — | 697 |
| Liverpool.....*h* | 7,416 | 8,128 | 502 | 15,319 |
| London.....*i* | 18,063 | 16,960 | 901 | 9,699 |
| Malaga..... | 5 | — | — | — |
| Marseilles..... | 93 | — | — | 1,351 |
| Nagasaki..... | 6 | — | — | — |
| Naples..... | 210 | — | — | — |
| Newcastle..... | 113 | 69 | — | 1,117 |
| Newport..... | — | — | — | 1,145 |
| Oran.....*j* | — | — | — | 5,914 |
| Palermo..... | 135 | — | — | — |
| Pillau..... | 2,832 | — | — | — |
| Rotterdam..... | 925 | — | 295 | — |
| Stettin.....*k* | 1,739 | — | 27,932 | 1,081 |
| Swansea..... | — | — | — | 134 |
| Trieste..... | 453 | — | 295 | — |

*a.* Including 65 bales cotton waste.
*b.* Including 592 bales flax waste, and 100 bales cotton waste.
*c.* Including 491 bales cotton waste.
*d.* Including 64 bales flax waste.
*e.* Including 72 bales flax waste.
*f.* Including 134 bales cotton waste.
*g.* Including 2,322 bales cotton waste and 1,915 bales flax waste.
*h.* Including 1,494 bales cotton waste and 74 bales flax waste.
*i.* Including 1,451 bales flax waste and 92 bales cotton waste.
*j.* Esparto.
*k.* Including 47 bales flax waste.

## NEW YORK IMPORTS.

FROM SEPTEMBER 28, 1886, TO OCTOBER 5, 1886.

***Paper Stock.***

Norwegian Wood Pulp Company, Island, Copenhagen, 2,500 bs. wood pulp.
Jessup & Moore Paper Company, Critic, Dundee, 200 bs. papers.
John H. Lyon & Co., Hungaria, Gothenburg, 1,535 bs. wood pulp.
Wing & Evans, Otranto, Hull, 185 bs. bagging.
Lewy Brothers, by same, 67 bs. jute waste.
J. F. Gildersleeve, by same, 4 bs. rags.
Train, Smith & Co., by same, 102 bs. rags.
W. I. Clark, by same, 76 bs. rags.
Woolworth & Graham, by same, 218 bs. manillas, 242 bs. rags.
J. L. Taylor, The Queen. Liverpool, 125 bs. manillas.
Wing & Evans, by same, 78 bs. bagging.
Train, Smith & Co., Helvetia, Liverpool, 126 bs. rags.
W. I. Clark, by same, 60 bs. rags, 40 bs. bagging.
M. A. Ring, Jr., Romeo, Liverpool, 44 bs. cotton waste.
J. W. Lyon & Co., by same, 262 bs. manillas.
J. W. Mason & Co., by same, 124 bs. manillas.
Perkins, Goodwin & Co., by same, 89 bs. manillas, 37 bs. papers.
Train, Smith & Co., by same, 93 bs. rags, 235 bs. papers.
John H. Lyon & Co., Olympia, Trieste, 87 bs. wood pulp.

***Paper.***

Alfred Ireland, State of Georgia, Glasgow, 13 cs.
Schulz & Ruckaberger, Noordland, Antwerp, 7 cs.
L. De Jonge & Co., by same, 9 cs.
Henry G. Ramsperger, City of Chester, Liverpool, 7 cs.
A. Haug & Co., Aller, Bremen, 6 cs. colored.
W. Hennemann, by same, 2 cs. colored.
E. & H. T. Anthony & Co., by same, 6 cs. colored.
Nuess, Hesslein & Co., Leerdam, Amsterdam, 22 cs.
Schultze Brothers, Rugia, Hamburg, 8 cs.
G. Gennert, by same, 14 cs.
Geo. J. Kraft, by same, 1 cs.
Keuffel & Esser, by same, 14 cs.
E. & H. T. Anthony & Co., by same, 1 cs.
G. H. Barbey, by same, 2 cs.
Goodwin & Co., by same, 12 cs.
Scoville Manufacturing Company, by same, 2 cs.
L. De Jonge & Co., Lessing, Hamburg, 5 cs.
B. Lawrence Stationery Company, by same, 1 cs.
G. Gennert, by same, 1 cs.
Merchants' Dispatch Company, by same, 11 cs.
Nuess, Hesslein & Co., by same, 2 cs.
J. Walker & Co., Wyoming, Liverpool, 1 cs.

## EXPORTS of Paper, &c., from New York for the Week Ended October 5, 1886.

BOOKS, cases, to United States of Colombia, 8; to Bremen, 2; to Hamburg, 1; to Rotterdam, 1; to Liverpool, 19; to London, 4; to Bristol, 1; to Glasgow, 2; to Newfoundland, 5; to British Africa, 6; to Brazil, 3; to Argentine Republic, 13; to Mexico, 19; to Central America, 5; to Venezuela, 2.

PAPER, to British West Indies, 7,195 rms., 24 pkgs., 1 cs.; to Mexico, 10 pkgs., 2 cs.; to Cuba, 665 pkgs., 17 crates; to United States of Colombia, 240 pkgs., 3 cs.; to London, 105 cs.; to Liverpool, 7 pkgs.; to Copenhagen, 9 cs.; to Bremen, 900 cs., 56 pkgs.; to Rotterdam, 3 cs.; to Newfoundland, 1 cs.; to Gothenburg, 2 cs.; to Hamburg, 71 bs.; to British Africa, 2 cs.; to Brazil, 6 cs.

STATIONERY, cases, to United States of Colombia, 64; to Liverpool, 60; to Cuba, 28; to Mexico, 26; to London, 21; to British West Indies, 15; to Central America, 6; to Hayti, 4; to Hamburg, 3; to Bremen, 6; to Glasgow, 2; to Newfoundland, 1; to New Zealand, 16; to Brazil, 3.

AGGREGATES AND VALUES.

| | | |
|---|---|---|
| Paper, reams.. | 7,195 | $1,102 |
| Paper, pkgs..... | 1,090 | 5,452 |
| Paper, cases..... | 153 | 2,433 |
| Books, cases..... | 91 | 7,536 |
| Rosin, bbls..... | 3,547 | 10,948 |
| Stationery, cases . ..... | 494 | 24,187 |
| Totals..... | 12,570 | $51,658 |

Exports General Merchandise for the week ended October 5, 1886..... $6,576,980

## BOSTON IMPORTS.

FROM SEPTEMBER 30 TO OCTOBER 6, 1886, INCLUSIVE.

***Books.***

Bailey & Co., Bassano, Hull, 11 cs.
C. C. Soule, Scythia, Liverpool, 15 cs.
Carl Schoenhof, by same, 1 cs.
Houghton, Mifflin & Co., by same, 4 cs.
Gunn & Co., Virginian, Liverpool, 1 cs.
Boston Athenæum, Iowa, Liverpool, 1 cs.

***Paper, &c.***

Bailey & Co., Bassano, Hull, 14 cs. albums.
Louis Wolf & Co., by same, 59 cs. albums.
Horace Partridge & Co., by same, 23 cs. albums.
Adams & Ingraham, by same, 1 cs. albums.
Carter, Rice & Co., Scythia, Liverpool, 3 cs. paper.
A. H. Roffe & Co., by same, 7 bs. periodicals.
Thomas Groom & Co., Durham City, London, 2 cs. paper.
Dennison Manufacturing Company, Virginian, Liverpool, 6 cs. tissue paper.
Wadsworth, Howland & Co., by same, 4 cs. drawing paper.

***Paper Stock.***

Chas. A. Cheney, Bassano, Hull, 68 bs. rags.
W. H. Parsons & Co., by same, 114 bs. paper waste.
Chas. A. Cheney, British Queen, London, 72 bs. paper waste.
Thomas F. Ring, by same, 187 bs. paper waste.
M. A. Ring & Sons, by same, 100 bs. flax waste.
Francis Sprague, by same, 83 bs. old rope.
Horace Dutton, Durham City, London, 131 bs. flax waste.
W. H. Parsons & Co., by same, 113 bs. paper waste.
Shepard & Co., by same, 75 bs. paper waste.
Order, Canada, by same, 22 bs. paper stock.
Iasigi & Co., Virginian, Liverpool, 208 bs. rags.
Warren & Co., Palestine, Liverpool, 14 bs. old bagging.
Train, Smith & Co., by same, 82 bs. paper stock.
Train, Smith & Co., Iowa, Liverpool, 83 paper stock.
H. M. Knowles & Co., by same, 79 coils old rope.
Chas. A. Cheney, by same, 52 bs. rags.

***Wood Pulp.***

Norwegian Wood Pulp Company, Bassano, Hull, 80 bs.

***Bleaching Powders.***

Warren & Co., Iowa, Liverpool, 389 cks.
Warren & Co., Palestine, Liverpool, 177 cks.
Linder & Meyer, Virginian, Liverpool, 45 cks.
Wing & Evans, by same, 80 cks.
Mason, Chapin & Co., by same, 269 cks.
Order, by same, 81 cks.

***Caustic Soda.***

Warren & Co., Palestine, Liverpool, 199 drums.
E. & F. King & Co., by same, 300 drums.

***Soda Ash.***

Warren, & Co., Iowa, Liverpool, 66 cks.
Warren & Co., Palestine, Liverpool, 63 cks.
J. L. & D. S. Riker, by same, 81 cks.
Linder & Meyer, Virginian, Liverpool, 447 cks.
Mason, Chapin & Co., by same, 81 cks.
E. & F. King & Co., by same, 36 cks.
J. R. Leeson & Co., Austrian, Glasgow, 6 cks.

***Soda Crystals.***

Warren & Co., Iowa, Liverpool, 280 bbls.

***Bicarbonate of Soda.***

Linder & Meyer, Virginian, Liverpool, 200 cks.

***Alkali.***

J. L. & D. S. Riker, Scythia, Liverpool, 15 cks.

***Hide Cuttings.***

Thomas Groom & Co., Iowa, Liverpool, 100 bags.
Thomas Groom & Co., Palestine, Liverpool, 80 bags.
Wm. Quiren & Co., Bassano, Hull, 122 bags.
Order, Peeless, Montevideo, 23 bs.

***Old Pickers.***

Train, Smith & Co., Iowa, Liverpool, 127 bs.
T. W. Barlow, Bassano, Hull, 14 bs.

***Venetian Red.***

Wadsworth, Howland & Co., Bassano, Hull, 50 cks.

***Clay.***

J. Henry Blanchard, City of Macon, Savannah, 12 cks.

***Rosin.***

E. E. Clark, City of Macon, Savannah, 160 bbls.
Order, by same, 300 bbls.

## PHILADELPHIA IMPORTS.

***Paper Stock.***

John H. Lyon & Co., Bernadotte, London, 285 bs. papers.


TRAIN, SMITH & CO.,
*IMPORTERS OF AND DEALERS IN*
— ALL DESCRIPTIONS OF —
**Paper Makers' Supplies,**
24 FEDERAL STREET, BOSTON.
BRANCH OFFICES: 36 BEEKMAN STREET, NEW YORK. 21 ST. MARY AXE, E. C., LONDON. EDMUND ST. CHAMBERS, LIVERPOOL.

ROZÉS BROTHERS,
— PACKERS AND SHIPPERS OF —
*RAGS AND PAPER STOCK*
OF EVERY DESCRIPTION,
Agen (France).
NEW YORK OFFICE: TRIBUNE BUILDING.

BARLOW & CO.,
WHOLESALE DEALERS IN AND PACKERS OF
**Woolen Rags and Paper-Makers' Supplies,**
237 and 239 South Street, and 66 and 68 Utica Street,
BOSTON, MASS.
WOOLEN RAGS GRADED IN COLORS AND QUALITY.

SHEPARD & CO.,
PAPER * STOCK
IMPORTERS AND DEALERS,
No. 54 KILBY STREET, BOSTON.

WING & EVANS,
Commission Merchants,
No. 92 WILLIAM STREET, NEW YORK
Soda Ash, Sal Soda, Caustic Soda, Bleaching Powders.
— AGENTS FOR —
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C. ALLHUSEN & SON. W. PILKINGTON & SON.
HAY, CORDON & CO.

"STEAM" *A Valuable Book for every Steam User and Engineer,*
Published for FREE DISTRIBUTION by
THE BABCOCK & WILCOX CO.,
MANUFACTURERS OF
Water-Tube Boilers,
*No. 107 Hope Street, GLASGOW.* *No. 30 Cortlandt Street, NEW YORK.*

COBURN & TAYLOR
Economical Rag Cutter.
THIS machine has been adopted by many of the principal mills of this country and Great Britain. It cuts all kinds of stock, saves room, makes very little noise and vibration, takes but little power, does its work thoroughly, and above all saves money.
COBURN & TAYLOR MFG. CO., Holyoke, Mass.
Agent for Europe; JOHN S. BRADFORD, Dundee, Scotland.

THE New American Turbine.

THE MOST PERFECT AND BEST MADE Water-Wheel yet produced. Utilizes high efficiency at whole and part water, and produces double the power of most of the Turbines made of equal diameter. *Will guarantee them to stand the pressure of 100 feet or more head.* Don't fail to send for new illustrated Catalogue, giving results of scientific tests and other valuable information on the subject of Turbines and improvement of water-powers.
STOUT, MILLS & TEMPLE, Dayton, Ohio, U. S. A.

NEW TANGYE BUCKEYE AUTOMATIC CUT-OFF ENGINES.
25 TO 1,000 H.-P.

These Engines are the combined result of long experience with automatic cut-off regulation, and most careful revision of all details. They are designed and constructed for heavy and continuous duty at medium or high rotative speeds. Highest attainable Economy in Steam Consumption and superior regulation guaranteed. Self-Contained Automatic Cut-Off Engines, 12 to 100 H.-P., for driving Dynamo Machines a SPECIALTY. Illustrated Circulars with various data as to practical Steam-Engine Construction and performance, free by mail. Address
BUCKEYE ENGINE CO., Salem, Ohio.
SALES AGENTS:
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N. W. ROBINSON, Cor. Clinton & Jackson Sts., Chicago, Ill. | PRAY MFG. COMPANY, Minneapolis, Minn.
KENSINGTON ENGINE WORKS, Limited, Philadelphia.
Sole Licensees and Manufacturers for New Jersey (South of Trenton), Eastern Pennsylvania, Delaware, Maryland and Virginia.

# The Paper Trade Journal

DEVOTED EXCLUSIVELY TO THE INTERESTS OF

The American Paper Trade.

**Weekly, $4.00 per Annum.**

**Single Copies, - - - 10 Cents.**

NEW YORK: SATURDAY, OCTOBER 9, 1886.

THE PAPER TRADE JOURNAL is the recognized organ of the various Paper Makers' Associations of the United States.

THE JOURNAL contains the latest and fullest information relative to the paper trade in all parts of the world, including descriptions of new appliances and processes for making paper, experiments with new fibres and other materials, a record of the water supply, with the latest manufacturing news in all parts of the country. It gives the cream of all the foreign technical journals which relate to the paper interest, besides communications from competent persons in the trade, both at home and abroad. The market review and quotations show the state of trade in all the principal cities, and no pains have been spared to make these accurate and complete.

Advertisements cannot be received for insertion in the current week later than 9 A. M. on Friday. The charge for advertising is 25 cents a line, each insertion. Special terms for standing and displayed advertisements to be had on application. Card in Directory Column and one copy of paper, $15 a year.

Subscription and postage for Great Britain..... £1
Subscription and postage for France, per annum..... 25 francs
Subscription and postage for Germany, per annum..... 24 reichsmark

Foreign subscribers may address our New York office.

Payment for subscriptions or advertising may be made by express money-order, draft, post-office order or registered letter.

Communications on matters of interest to the trade are earnestly solicited from all quarters, and if used will be liberally paid for. Items of news and facts of all kinds in relation to the state of the mills, &c., will be gladly received.

All communications must be addressed to

**HOWARD LOCKWOOD & CO.,**

*Publishers,*

126 and 128 Duane Street, N. Y.

**CABLE ADDRESS: Catchow, New York.**

*BRANCH OFFICES.*

**Western Office**—W. A. CARROLL, General Manager, 214 LA SALLE ST., CHICAGO, ILL.

**Philadelphia Office**—W. M. PATTON, General Manager, 504 WALNUT ST.

**Eastern Office**—JOSEPH HAMMITT, General Manager, 250 DEVONSHIRE ST., BOSTON, MASS.

**Southern Office**—F. G. HANCOCK, General Manager, CORNER BROAD AND ALABAMA STS., ATLANTA, GA.

*FOREIGN GENERAL AGENTS.*

| | |
|---|---|
| Elfwing & Co. | Stockholm, Sweden. |
| John L. Sprague | Gibraltar, Spain. |
| Leonardo Pardo | Vigo, Spain. |
| C. Galvagno | Turin, Italy. |
| S. Bernard | Venice and Florence, Italy. |
| W. & P. Shepherd. | Leghorn and Genoa, Italy. |
| J. H. de Bussy | Amsterdam, Holland and the Dutch East Indies. |
| Gordon & Gotch | Melbourne and Sydney Australia. |
| R. T. Wheeler | Dunedin, New Zealand. |
| W. Snelling | Brisbane, Queensland. |
| A. G. Webster | Hobart Town, Tasmania. |
| Knight & Co. | Newchwang, China. |
| I. D. Clark | Shanghai, China. |
| Sargent, Farsari & Co. | Yokohama, Japan. |
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| Edward Grauert | Montevideo, Uruguay. |
| Bethencourt e hijos | Curaçoa, W. I. |
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| Henry W. Hughes. | New Westminster, British Columbia. |

*TO CORRESPONDENTS.*

*As THE PAPER TRADE JOURNAL is the recognized vehicle of communication in matters of trade interest, we will be glad to receive correspondence from all parts of the country. Information and suggestion upon paper-making topics are especially valuable, and manufacturing news and personal items are equally acceptable.*

Readers of this paper who avail themselves of the information obtained from its columns, by advertisement or otherwise, are requested to notify their correspondents of the source of their information.

Subscribers to THE JOURNAL can be supplied with the best cloth binder in the market. Deliverable at the publication office. Price $1.25.


AUGUST returns of our foreign commerce show an increase of $5,000 in the values of our exports of paper over the corresponding month of last year, and for the eight months ended August 31 a gain of $36,564 is reported. The relation of values as to quantities will be understood by our readers. We hope to be able to note this increase from month to month.

NOT long ago a paper maker told us that he did not see any particular difference in paper mills, but that they are all about alike. He was unobservant or familiarity had blunted his perceptions. To be sure they all make paper, but with striking differences in details and management, more clearly perceptible perhaps to those who are not in paper mills every day of their life.

THE Swiss are deploring the decline of their paper trade, their exports having fallen off to almost nothing, while the imports, chiefly from Germany, have largely increased. There is complaint also that the Swiss paper makers are devoid of energy and judgment. This would seem to be well founded, for Switzerland certainly has facilities which ought to enable her to engage largely in the production of wood pulp and fibre.

ON the first page will be found an illustration, with description, of a new digester intended to be used in the production of wood fibre by acid processes. In this instance the inner surface of the digester is coated with an enamel which is expected to expand and contract with the shell. It remains to be demonstrated, we believe, that this elastic vitreous coating will prove effective in practice. Descriptions of two new methods of lining digesters with lead are also given. These may also be classed as experimental, although we believe that in one case there is a similarity to a form of boiler already in use in England. By and bye, perhaps, there will be an end of suggestions of this kind, and then more attention will be given to other features of the bisulphite processes which need modification and improvement.

RENEWED interest is given to the demonstrations favorable to bisulphite fibre by the determination of a gentleman already well known in connection with the manufacture of alkali fibre to enter upon a series of experiments with a view to developing and cheapening the acid processes. Having in mind his previous successes it will not be at all surprising if this inventor shall make some radical improvements, provided that these are possible, as we believe they are. Under the head of "Trade Talks" in this issue a paper maker of many years' experience expresses the opinion that the soda process will be able to hold its own. This remains to be seen. There can doubtless be more economic production in this as in opposing methods of reducing wood to fibre, and the issue will probably turn upon good administration and management.

A NEW process is being developed for the purpose of utilizing the chlorine contained in magnesium chloride, as obtained from the mother-liquors in the manufacture of common salt from sea-water, or as obtained, in a by-way, from the decomposition with magnesia of the ammonium chloride from the ammonia-soda process. This process will be carried out in France, where extensive works are being erected for the purpose. Those engaged in its prosecution are said to be confident of success, which, if attained, promises to be influential in destroying the alkali industry in Great Britain, where the Le Blanc process is in vogue. The chlorinated compounds obtained in that process have been the mainstay of the British producers. With this new process the ammonia soda manufacturers may use magnesia instead of lime to recover their ammonia, and the chlorine will be obtained, not as valueless calcium chloride as heretofore, but as valuable magnesium chloride, which can afterward be converted into hydrochloric acid, in part, and free chlorine or chlorinated lime. Another advantage which these manufacturers will derive is that the comparatively valueless magnesia minerals of Stassfurt may be employed for the manufacture of bleaching powder. An English journal remarks that "this is not a pleasant prospect for the Le Blanc manufacturers, but the progress of science cannot wait for their interests."

SOME agitation is going on in Germany concerning an export duty on rags, but the press generally is opposed to it on the ground that there is no need for it, Germany being the greatest paper-manufacturing country in Europe. In 1880 the imports of paper into Germany amounted to 65,280 metrical cwts. of 100 kilogs., worth 5,745,000 marks, and the exports were 508,730 metrical cwts., valued at 45,306,000 marks; in 1885 the imports had decreased to 54,920 cwts., worth 5,058,000 marks, while the exports were 740,480 cwts., worth 72,287,000 marks, and it is therefore argued that a country able to make such a statement need not restrict the export of rags. It is further shown that the exports of rags was on an average, during the years 1880-3, 2,017 metrical cwts. less than the import, and that only this year has there been an excess of exports during the first six months, which is exceptional, the reverse having been the case each year since 1883. An enormous excess of exports over imports of wood and straw pulp is reported, and these exports have been growing ever since 1880, in which year the excess of exports amounted to 57,350 metrical cwts., while last year the excess was no less than 213,800 cwts. In spite of this fact the price of all such pulp has declined in Germany, instead of rising. Rags have also declined in value because of the competition of bisulphite fibre. In 1884, when the German rag exports were the largest, they gave way in value. The opposition to an export duty on rags is so great in Germany that it is not likely that Parliament will pass any bill which shall impose such a duty. Judging from the dividends that are being declared, the German paper manufacture seems to be flourishing. In some instances the September dividends have been as high as 15 per cent.

## Watermarks.

BY DANDY.

Rumors fill the air. It is bisulphite here and alkali there. Why wouldn't it do to put them both into a digester and "let 'em fight it out."

Holyoke people, I am told, are getting to be very appreciative of bisulphite fibre, and likely to use it very extensively. Some say that it is the strongest chemical wood product yet got out. Well, it may be, but I wouldn't swear to it. I have seen soda fibre that was as tough as sole leather.

But there is an evident determination to probe into things. One of the most persistent investigators, inventors, &c., has made up his mind to go into the closest study of the acid processes, and he proposes to put out a few dollars in wholesome experiments, "just to see how the thing works."

It may, therefore, be reasonably expected that something will develop. It has taken considerable time for our paper makers to get on to the thing, and now they are going it with a rush—too fast, I fear, in some cases. *Festina lente* is a good motto.

Seems to be an epidemic of weddings in the paper and paper-stock line. This time it strikes chemical fibre, and I hear that the event is to occur on Wednesday.

On the following day a paper man steps off and becomes a benedict.

That's right, boys, go it while you're young, for when you are old you can't.

This week another small mill succumbs to the inevitable, and this fact furnishes another text for people to cry "wolf." Rather than that it ought to be simply another warning to sellers of both paper and stock to look more carefully after credits and not to assume risks simply for the sake of "making a sale."

Grades in rags appear to be broken up, and to be deteriorating as prices go lower.

An arbitration was had this week between an importer and a German rag packer. It appears that the importer ordered some fine linens, to be of "usual good quality." The packer shipped what were really coarse linens, but the arbitrating committee, consisting of three importers, decided that his packing of "usual good quality" of coarse linens was what other packers called fine linens. They therefore decided in favor of the packer. That was better than dragging the case into the courts.

Some of the foreign packers are still troubled as to the disinfection question, and at least one of them is shipping to Boston on the understanding that rags will not need to be disinfected now. That can be told with much more certainty when the Boston Board of Health has passed the rags around and not through the steam-hopper.

I hear that five car-loads of rags—something in the shape of cotton waste—are out West looking for an owner. The shippers sent a sample and followed it at once with five cars, and now the mill man says that he did not order the stock and invites the shipper "to knock a chip off his shoulder."

The "Major" has resigned, and will no more—at least for the present—teach the art of war to the Brooklyn sons of Mars. The officers of his regiment have invited him by resolution to stay and go a peg higher, but he don't see it in that light.

One of his partners tells him that if many more such resolutions are passed he (the "Major") will soon begin to think he amounts to something. What a sad thing it is to have a hard-hearted and wicked partner.

Byron Weston, Dalton, Mass., is going to light both his mill and house by electricity. Next thing, Governor, is to carry around an electric headlight.

## Trade Talks.

*C. A. Whedon, Wilkinson Brothers & Co., New York.*—Referring to the statement of Mr. Kimberly, I would say that I do not know of any sulphite company formed in New York to use the Flodqvist boiler. It is true that I have examined the boiler on the other side and found it to be exactly the same as the one patented by McDougall and owned by the American Sulphite Pulp Company. Furthermore, I do not know of any new sulphite company formed in New York, but if there is, I am not connected with it.

*Adam Ramage, Holyoke, Mass.*—Yes, at the present time chemical fibre by the bisulphite process is "all the rage;" first one man and then another gets the idea into his head that he knows exactly under which cup the "little joker" is to be found; he puts his money up, raises the cup, but the "little joker" is not there; the money, however, is gone all the same. Why not reduce all of these experimental stations to one establishment, controlled by one person having a knowledge of mechanics and of chemistry and possessed of common sense, and who might be prompted from time to time by instructions from a committee of those interested after they had agreed among themselves what course to pursue or in what line to carry the experiments? What is the use of all this waste of time, money and brain-power in detached pieces? Certainly, I am aware of the fact that in this free, rough-and-tumble fight each one engaged in it fully expects to secure the prize all to himself; but it is not at all likely that any one individual will be able to do so. The problem will probably be solved by a combination of simple but practical methods which, on account of conflicting claims evolving from the present struggle, no one party will be able to control; and the manufacture of chemical fibre by the acid process will, like its manufacture by the alkali process, be open to all. Therefore, I say, "pool your issues." I haven't the slightest idea that the soda process will be superseded by the bisulphite. Much has been done in late years to lessen the cost and to improve the quality of chemical fibre by the soda process, and the end is not yet. It would be difficult to put up an inexpensive plant to produce a fibre of the best quality at a cost not exceeding 1½ cents per pound. But the bisulphite men propose to do better than that, don't they? No doubt they could, if they had no repair bill to pay, but in all probability the bill for repairs will more than counterbalance the difference in the cost of chemicals. The repair bill of the soda-process plant is a heavy item of expense; but a heavy repair bill is not a necessary concomitant of the soda process, while from the nature of the chemicals employed it is likely to be a continual necessity in the bisulphite process. I will not say that the acid process is not likely to prove a success. Some good result ought to be obtained from the many and varied efforts that are being made; nevertheless, the only sign of daylight I can see comes from the description in THE PAPER TRADE JOURNAL of a digester to be lined with lead and having a thick intermediate lining of a non-heat-conducting material such as charcoal, or I would suggest asbestos, between the inside lead shell and the outside iron or steel shell. It seems to me that there is a promise of success in that direction. I hope that the acid process will be a success; the future of paper making is largely dependent upon the development of chemical fibre. I therefore earnestly desire the success of both processes, or of any process that will further this development. Besides, the success of the one is not only no detriment to the other, but is rather a stimulant to improve the quality and lessen the cost, and in the alkali process there is open a wide field for progress in this direction. The claim that a larger percentage of cellulose and a stronger fibre can be obtained by the bisulphite process than by the soda is not well founded. With careful management all of the cellulose in the wood or plant can be obtained by either process, and if a larger product is secured than there is cellulose in the plant or wood, it is simply because the fibre is not pure.

## Communications.

[Communications are solicited from everyone who has anything of value or interest to impart. Items of news, trade gossip, and personal information will be gladly received. Correspondents are requested to write only on one side of the paper. No responsibility for the opinions of correspondents attaches to this paper. Communications must be sent to reach this office on Wednesday night or Thursday morning of each day to insure insertion.]

### Mica Paper.

*To the Editor of The Journal:*

We observe in THE PAPER TRADE JOURNAL of September 25, a paragraph stating that "L. A. Sadler, of the Old Dominion Paper Company, has struck a bonanza in making wall-paper, which he calls mica paper. He says that 'there's millions in it' and considers it the greatest invention of the age."

The paragraphist is quite correct in speaking highly of the mica paper, but Mr. Sadler is not the inventor of it, and neither he nor the Old Dominion Paper Company has any right to make it. Mica paper is the subject of two patents issued to our Mr. Beck, viz., No. 322,034, dated July 14, 1885, and No. 342,315, dated May 25, 1886, in the former of which we claim the described mode in the manufacture of paper, consisting in the mixing with pulp finely divided mica, talc or like substances, and our patent embraces both the article itself and the process of making it and includes paper where pulp is dyed or colored, or paper consisting of two or more sheets, united to each other, the mica or lustrous substance being either in the pulp or one of the sheets, besides other modifications of the invention.

The latter patent relates to decorative paper, where the lustrous material is applied to the surface of the pulp in the process of manufacturing the paper and various modifications of that invention.

In view of the above quoted paragraph we desire to caution the trade against infringing our claims to the articles and the process described therein, as we intend to protect our rights.

FR. BECK & CO.

### Tobacco Paper.

*To the Editor of The Journal:*

In a late issue of your paper was an inquiry from one of your readers, as to the practicability of working tobacco stems into paper. I have never tried the stem business myself, but I have had some talk with men who have experimented on them, and it would seem from what I can learn, that the stems, after being beaten into pulp, have little or no fibre, and the paper has a tendency to cockle, but by working in 33 per cent. of gunny-bagging, a pretty fair sheet of paper can be produced.

A man called at our mill about six months ago, and said that he was no paper maker, but that he had made a discovery which he thought would cause a revolution in the trade. He wanted to see the manager, and said that he was willing to share half the profits with anyone who would give the stock a fair trial. I told the stranger that the manager had gone to dinner and that he would not be back for an hour. The stranger said that he would willingly wait two hours, provided his discovery should prove to be a success. I took the privilege during the manager's absence of asking if this discovery was "corn shucks." He laughed and said no, that it was not corn shucks, but that he was not disposed to reveal the secret until he found someone who would consent to give it a trial. When the foreman returned and informed the stranger that he had tried his discovery twenty years ago and found it a failure, the man cooled down wonderfully and left. I have not seen him since.

M.

## Changes, Removals and New Firms.

S. J. Saunders, publisher, Navasota, Tex., has sold out.

Burns & McCoun, publishers, Belle Plaine, Kan., have sold out.

The *Tri-Weekly Standard*, Eureka, Nev., has suspended publication.

W. R. Bradley, stationer, &c., Colorado Springs, Col., has sold out.

Plantz & Moore, dealers in wall-paper, Lyons, N. Y., have sold out.

M. C. Harris, publisher of the *Enterprise*, Arlington, Ore., has sold out.

Brandow, Barton & Co., printers, Albany, N. Y., have dissolved partnership.

O. S. Munsell, publisher of the *Republican*, Council Grove, Kan., has sold out.

Elwood Sharp, publisher of the *Guard*, Council Grove, Kan., has sold out.

David F. Wallace, publisher of the *New Era*, McMinnville, Tenn., has sold out.

Dulop & Cohen, printers, stationers, &c., Atlanta, Ga., have dissolved partnership.

Tucker & Co., printers, La Crosse, Wis., have been succeeded by Spicer & Bushman.

Rode & Brand, lithographers and printers, New York, have removed to No. 10 Barclay street.

Beckwith, Parham & Anderson, booksellers, &c., Richmond, Va., have dissolved partnership.

Snyder & Claybaugh, publishers of the *Courier*, Connellsville, Pa., have dissolved partnership.

John J. Ginn, publisher of the *Frontier*, Nogales, Ariz., has been succeeded by M. B. Crawford.

W. B. Schaeffer, dealer in books and stationery, has removed from Bellefonte, Pa., to Milton, Pa.

The Troy *Telegram* has been sold by C. L. Mac Arthur & Son to John Hastings, late of the New York *Commercial Advertiser*.

Charles K. Moore, Waterford, N. Y., has sold his Monarch Paper Mill to John F. Vogle and gone out of the paper-making business.

H. B. Brux, formerly with J. H. Stelling, Charleston, S. C., has started in the stationery and paper business at 132 East Bay in the same city.

The firms of J. K. Gill & Co. and W. B. Ayer & Co., stationers, &c., Portland, Oregon, have been consolidated under the style of J. K. Gill & Co. The new firm will settle

all accounts of the old firms, and has located at corner of First and Oak streets, Portland.

Anthony M. Cochrane and J. D. Dougall announce that they will use the firm-style of John Dougall & Co. as publishers of the *Witness*, New York.

The W. H. Hoskins Company, stationer, printer and engraver, 913 Arch street, Philadelphia, will remove on or about October 15 to 927 Arch street.

N. L. Baker, publisher of the *Saturday Evening Times*, Portland, Ore., has been succeeded by the *Saturday Evening Times* Publishing Company.

Moore & Colburn have succeeded the Bradford Paper Manufacturing Company, Bradford, Vt., and will start up the mill, which has been idle for some time.

L. S. Judd, wax-paper manufacturer, New Bedford, Mass., has transferred his business to his son, Walter H. Judd, and the style has been changed to the L. S. Judd Wax-Paper Company.

The Bushong Paper Company, Limited, Reading, Pa., has been changed to a corporation and has taken the style of the Reading Paper Mills. This does not involve any change in the mill of the company or the management. The concern will continue the manufacture of the well known "Bushong paper."

The Lawrence Machine Shop, Lawrence, Mass., has transferred its stock, machinery and business to a new company, formed by the same parties, and incorporated under the laws of Massachusetts. The accounts of the old concern will be assumed and settled by the new company, the officers of which are Joseph P. Battles, president; Wm. O. Webber, vice-president, and A. A. Brooks, treasurer.

## Mortgages, &c.

[In the appended list R. signifies a renewal of a pre-existing mortgage; B. S., bill of sale; and Real, a mortgage on real estate.]

NEW YORK CITY.

| *Mortgagor.* | *Amount.* |
|---|---|
| P. J. Chappell | $2,000 |
| Drummond & Neu | 2,500 |
| G. F. June | 1,300 |
| A. Weltner | 300 |
| J. W. Marsh (B. S.) | 1 |
| L. E. G. Radde (R.) | 775 |

EASTERN STATES.

| | |
|---|---|
| John W. Newell & Co., Greenfield, Mass. (subject in part to prior $2,720) | 1,500 |
| M. H. Hayden, Springfield, Mass | 159 |

WESTERN STATES.

| | |
|---|---|
| J. E. Clarke, Pasadena, Cal. | 500 |
| F. W. Wood (Frederick W. Wood & Co.), Denver, Col. | 427 |
| *Sanitary News*, Chicago, Ill. | 1,450 |
| W. B. Mumford, Adrian, Mich. | 6,264 |
| G. H. Greve, St. Louis, Mo. (B. S.) | 2,100 |
| D. Rau (D. Rau & Co.), St. Louis, Mo. | 165 |
| W. W. Baker (W. W. Baker & Co.), publishers of *Rural Spirit*, Portland, Ore. (Real) | 1,500 |
| Henry Coker (Coker & Baker, Council Bluffs Paper Company), Council Bluffs, Ia. | 100 |

SOUTHERN STATES.

| | |
|---|---|
| W. U. Day & Co., Baltimore, Md. | 1,388 |

LIENS RELEASED.

| | |
|---|---|
| Max Davis *et al.* (B. Schonwasser & Co.), San Francisco, Cal. | 8,000 |
| Charles Beverly, What Cheer, Ia. | 250 |

## Obituary.

ARTHUR H. WHEELOCK.

Arthur H. Wheelock, superintendent of the mill of the Moline Paper Company, Moline, Ill., died on Sunday, September 26, of Bright's disease of the kidneys. He was born in Fox Lake, Dodge County, Wis., on September 21, 1846, and was the son of J. Adams and Sophia Wheelock, two early settlers of Wisconsin Territory. In 1862 the family moved to Breighton, Ia., and on March 29, 1868, Mr. Wheelock was united in marriage to Eliza Moore. He engaged in the milling business with his father, and on the latter's death took sole charge of the business. In June, 1880, he accepted a position as bookkeeper with the Moline Paper Company, and three years later was appointed superintendent of the mill. He was a member of the Board of Assistant Supervisors in the county where he lived, was a prominent member of the order of Modern Woodmen, and was highly esteemed by all who knew him. He was a nephew of S. W. Wheelock, the President of the Moline Paper Company. He leaves a wife and four children.

W. W. Allen, stationer, &c., Haywards, Cal., is dead.

John McCarty, paper-stock dealer, Philadelphia, Pa., is dead.

John Tyler, of the firm of Brawner & Tyler, publishers of the *Bulletin*, Linneus, Mo., is dead.

William H. Hoffman, of the firm of William H. Hoffman & Sons, paper manufacturers, Hoffmanville, Md., is dead.

David Adams, of the publishing firm of Beadle & Adams, New York, died of heart disease at his home, 124 St. Mark's place, Brooklyn, on Friday last. He was born in 1838, and has been in the publishing business for the past twenty years. He leaves a widow and two children.


## *SPECIAL NOTICES.*

*[Insertions under this heading will be charged 50 cents a line. Payment invariably in advance.]*

**P. HART & CO.,**
WHOLESALE DEALERS AND PACKERS OF
**Rags, Paper Stock, Metals and Rubber,**
134 AND 136 JANE STREET, NEW YORK.

**EUGENE SULLIVAN,**
**Packer of Rags and Paper Stock,**
356 & 358, WATER STREET, NEW YORK.

**THOS. BUTLER & CO.,**
**Rags, Paper Stock, Old Metals, Rubber,**
249-253 CAUSEWAY ST., BOSTON, MASS.

**FRANK B. GRAVES,**
**Rags, Paper Stock, Waste, Rubber, &c.,**
137 RIVER STREET, TROY, N. Y.

**CARPENTER & BARTLETT,**
**Cotton and Woolen Rags, Paper Stock, Old Metals and Rubber,**
No. 190 FRONT STREET, HARTFORD, CONN.

**JAMES SAVAGE, JR.,**
**Rags, Paper Stock, Rubber, &c., &c.,**
530 TO 536 WEST 28TH ST., NEW YORK.

**MORE & IRVINE,**
**Rags, Paper Stock, Rubber, &c., &c.,**
59, 61, 63 AND 65 GOERCK ST., NEW YORK


# Market Review.

OFFICE OF THE PAPER TRADE JOURNAL,
FRIDAY, October 8, 1886.

THE MONEY MARKET.—The stock market has been irregular and hesitating, although fluctuations have been within comparatively narrow limits. In the money market call loans rule firm at 6 per cent. Mercantile paper is quoted as follows:

| | Sixty days. | Four months. |
|---|---|---|
| Double-named— | | |
| First-class | 5½@6 | 5½@6 |
| Good | 6 @6½ | 6 @6½ |
| Single-named— | | |
| First-class | 6 @7 | 6 @7 |
| Good | 8 @9 | 8 @9 |
| Not so well known | 9 @10 | 9 @10 |

Sterling was quiet and steady. Posted rates closed at $4.82 for sixty days' and $4.85 for demand. Rates for actual business were as follows: Sixty days' sight, $4.81¼@4.81½; demand, $4.84¼@4.84½; cables, $4.84¾@4.85; commercial, $4.80@4.80¼. Continental bills were quoted as follows: Francs, 5.25@5.23¾ and 5.22½@5.21¾; reichsmarks, 94⅛@94¾ and 95⅛@95¼; guilders, 40 and 40¼. Government bonds were steady and reported sales were $20,000, 4's, coupon, 1907, at 128⅞c.; $60,000, 4's, registered, 1907, at 129c.; $20,000, do., at 128⅞c., and $10,000, do., at 128⅞c., seller three. Railroad bonds were irregular and were alternately firm and weak.

THE PAPER TRADE.—While there is an increased inquiry and better movement in the paper trade, it is not up to what it should be for this time of the year, and particularly for the first week in the month. At the mills, especially those running on standard grades, there is a fair supply of orders, and the production in some cases is well sold ahead. The local market, however, is rather quiet so far as local demands are concerned, although a very fair call is reported from out of town. Writings are in fair trade, but are not as active as is expected or desired at this time. Prices, however, are steady as to prime grades. Book papers are in fair demand, and there has been a very good trade, especially from the West, in which Manillas have also shared. One manufacturer of the latter grades has announced an advance of ¼c. per pound, but this is believed to be caused by a lessening of competition on those particular makes rather than by any added firmness in the market. Strawboards have been rather quiet during the past week, but association prices are still in force and are adhered to. Straw Wrappings are quiet. The Hanging mills are generally busy. The effort of the National Association of House Painters and Decorators to cause the stainers to sign an agreement not to sell papers at wholesale to other than dealers has not proved altogether successful. Some of the stainers have signed the paper, but the majority of them have not.

JUTE BUTTS.—The Jute Butt market is strong at 1⅝c. for paper quality, 1¾c. for mixing and 2⅛@2¼c. for bagging, with sales of about 1,500 bales within the range. There is nothing doing in futures. The Calcutta market is strong and it costs to import fully 1¾c. for paper and 2⅛@2¼c. for bagging qualities. The ship Aristomene arrived during the week, with 10,085 bales, all of which go to consumers. The October circular of Cabot, Ray & Co., gives the statistical position as follows: Imports to the United States, 1883, 499,110 bs.; 1884, 285,749 bs.; 1885, 403,970 bs. Consumed in the United States, 1883, 468,310 bs.; 1884, 282,946 bs.; 1885, 400,575 bs. Stock on hand January 1, 1886, New York and Boston, 56,000 bs. Imported since, New York and Boston, 357,958 bs.; same time 1885, 375,813 bs.; and 1884, 233,336 bs. Stock, New York and Boston, October 1, 1886, 36,000 bs.; 1885, 54,600 bs.; 1884, 66,840 bs. On passage for United States, August 31, 1886, and by cable to September 30, 1886, 62,498 bs.; 1885, 27,177 bs.; 1884, 74,626 bs. Visible supply to February 1, four months, 98,498 bs.; 1885, 81,777 bs.; 1884, 141,466 bs. Consumption since January 1, 1886, 377,958 bs.; 1885, 373,816 bs.; 1884, 216,296 bs. Delivered to consumers past thirty days, 19,807 bs.; 1885, 32,657 bs.; 1884, 19,066 bs. The same circular speaking of the market says: "Stocks have been materially reduced since our last, and market is a trifle firmer for both spinning and paper qualities. Consumption has been equal to shipments from Calcutta, leaving supplies about same as in last circular. Calcutta market has shown very little change; freights have ruled higher and exchange has advanced, making cost of imports, say for spinning, 2@2¼; mixing, 1¾@1⅞; paper quality, 1⅝; at close we quote: Spot market, say for first-class bagging, 2 3-16@5-16; mixing, 1¾@⅞; paper, at 1 60-100@1⅝."

WOOD PULP.—There has been a very fair demand for Ground Wood, and foreign grades have been quite active. Values are unchanged. Poplar is quoted at 1¾@1⅞c., and Spruce 2@2¼c. delivered. Foreign grades are quoted ex-dock: 50 per cent. Wet at 1.56c.; Dry, at 1¾c., and Brown Boiled at 1⅝c. Imports for the week aggregated 4,122 bales, including 2,500 bales from Copenhagen, 1,535 bales from Gothenburg and 87 bales from Trieste.

WOOD FIBRE.—There is a good demand for Chemical Fibre, and combination prices are firmly held. Prices are not quotably changed. We quote: Bleached at 3¼c. and Unbleached. 3¼c. Foreign grades are still quoted: Unbleached Pine, soda process, 3@3.50c.; Bleached, same process, 3⅞@4½c.; Unbleached, sulphite process, 3⅜@4c., and Bleached, 4½@6¼c.; Bleached Straw Pulp, 4¾@5¼c.

FOREIGN RAGS AND PAPER STOCK.—The condition of the foreign rag market is not such as to afford a great deal of encouragement to importers. Some houses report an increased inquiry, but as a rule the week has been quiet. Business is unsatisfactory, for while more goods have been sold, both as to quantity and value, thus far in this year than in the same time in 1885, the profits are very small and houses report that "no money has been made." Relatively, foreign markets are higher and firmer than this market, and this is a stumbling-block to the importers. A small failure this week caused some losses, and at present prices profits are wiped out rapidly when such things occur. Some Belgian light-blue linens have been sold at 2¾c., but prime grades of blue linens have been selling at 3@3⅜c., and for some of them there is a very steady call. Cotton rags are quiet. Cotton waste is also quiet and is quoted 1½@2c. Paper stock is in fair, steady trade, but prices are still low. Imports for the week aggregated 6,529 bs., including 747 bs. rags, 472 bs. old papers, 4,122 bs. wood pulp and 1,188 bs. manillas. Ports of shipment and quantity are: Copenhagen, 2,500 bs. wood pulp; Dundee, 200 bs. old papers; Gothenburg, 1,535 bs. wood pulp; Hull, 424 bs. rags, 470 bs. manillas; Liverpool, 323 bs. rags, 272 bs. old papers, 718 bs. manillas; Trieste, 87 bs. wood pulp.

DOMESTIC RAGS.—There is not a great deal of life in the domestic rag market, although small lots are moving pretty steadily. No. 1 City Whites are selling within the range of 3¼@3⅜c. and No. 2 City Whites 1¾@2c., with a reported sale to manufacturer of 300 bales at 1.55c., an exceptionally low figure. Seconds are quoted at 1@1½c. Canvas is quiet, with cotton quoted 4@4¼c. and linen 3⅞@4½c.

BAGGING, &c.—The demand for Bagging has not improved to any great extent. Importers are still quoting 1⅝c. for No. 1 Manchester, with an order for 25 tons, equal to P 83, declined at that figure. We note sale of small lot of German bagging at 1¾c., and 100 tons mixed No. 1 at 1.35c. Jute Ropes and Threads are in fair movement and former quotations hold good. We note sale of 50 tons XI's at 2½c. Imports for the week aggregated 1,188 bales, ports of shipment and quantities being Hull 470 bales and Liverpool 718 bales.

OLD PAPERS.—There is a fair average movement in the Old Paper market. Shavings are generally dull, although some dealers have open orders for No. 1 Hard and are steadily shipping at 4c. The hanging mills are taking a goodly supply of Folded News, which are moving close to 1¼c., and in some instances fully at that price. We quote: No. 1 Hard White Shavings, 4c.; No. 1 Soft White do., 2½c.; Old Ledgers, 2⅝c.; Solid Printed Books, 1¾@2c.; Mixed Shavings, 1¾@2c.; No. 1 Manillas, 1½c.; Light Book Stock, 1@1¼c.; Folded News, 1⅛@1¼c.; Commons, 60@65c.; Bogus Manillas, 60@65c.; Strawboard Clippings, 65c.; Binders' do., 65c.

STRAW.—The market is steady and there is a fair business in progress. We quote: No. 1 Rye at 60@65c.; Short Rye at 50@55c.; Oat at 35@40c.

ROSINS.—Rosins are in light demand and small lots only are moving. Prices are unchanged. We quote in lots from the yard: Common to Good Strained, $1.25@1.30; E, $1.55; F, $1.70; G, $1.80; H, $1.85; I, $1.95; K, $2.50; M, $3; N, $3.30, and W G, $3.55.

CHEMICALS.—The market has ruled quiet but firm. Bleaching powder has ruled quiet and firm. The advance has been well sustained, but few contracts are being made at present figures. Owing to arrivals and the desire of some holders to realize, prices in Boston have given way somewhat, and the range has been 1.67½@1.70c. Here it is from 1.80@1.90c., as to brand and quality. Pilkington's latest circular says: "Buyers have declined to pay the advance asked, and are holding off the market, second-hand and weak sellers being frightened thereby into accepting lower figures, and hardwood has been sold at £7 per ton f. o. b. Liverpool, though £7 5s.@£7 10s. is the general quotation. In softwood we know of direct sales at £6 16s. 3d.@6 17s. 6d. on the rails, but £6 15s. would buy in some quarters, and consumers are holding off as much as possible in hopes of a further drop. The market generally is weaker, but the association committee are no doubt alive to this fact, and it is thought by many that they will take steps to strengthen the position. From Newcastle we hear of a strong market, bleach being very scarce at £6 17s. 6d.@7 net for softwood. For forward, makers are very firm at £7 10s.@8, but buyers will not, so far, pay even the lower price, and point to the position of the spot market as a reason for holding off for forward." The arrivals of caustic soda, high test, have been quite free, the bulk being taken by deliveries on contracts. Stock for prompt delivery is scarce, and higher rates are asked. At the close 2⅛@2.55c. was asked, the inside price being low. There has been a better demand for caustic soda ash, 48 per cent., the usual monthly supplies being called for, and beyond this there have been some sales of stock to arrive. Sales are reported at 1.35c. English sal soda has been quite active both on spot and for shipment. Recent arrivals have all been placed, and higher rates were asked at the close. Sales and quotations are: 300 cks. Bleaching Powders, spot and to arrive, at 1.87½c.; 200 tons Soda Ash, 48 per cent., spot and to arrive, 1.35c.; 100 drums Caustic Soda, 70 per cent., at 2.55c.; 100 tons Sal Soda, spot, at 90c.; 300 bbls. Lump Alum at 1.80c.; 150 bbls. Ground do. at 1.90c.; 17 cks. Yellow Prussiate of Potash at 19¼c.; 2,500 bbls. Aluminous Cake at 1¾c.; 1,500 bbls. Pearl Alum, 2½c.; 3,000 bbls. Natrona at 2½c.; 23 cks. Ultramarine, at 17½c.; 30 cks. Hyposulphite of soda at 2¾c.; 20 cks. Brown Sugar of Lead, at 7c.

CHINA CLAY.—Since the opening of the month there has been an improvement in the demand for English China Clay. Sales comprise 100 tons prime medium grades at $13.50 @14; 275 tons superfine at $16@17.50. Southern Clay is in the usual demand at $10.50@11, ex-dock.

COAL.—There is a good active demand for Anthracite Coal and quotations at New York ports are as follows:

| | Broken. | Egg. | Stove. | Nut. | Pea. |
|---|---|---|---|---|---|
| Free-burning White Ash | $3.55 | $3.80 | $4.15 | $3.65 | $2.10 |
| Pittston | 3.45 | 3.65 | 4.05 | 3.70 | 2.30 |
| Reading Hard White Ash | 3.75 | 4.00 | 4.15 | 3.65 | 2.20 |
| Honey Brook | 4.15 | 4.15 | 4.15 | 3.65 | .... |
| Plymouth Red Ash | 3.75 | 3.95 | 4.30 | 3.85 | .... |

Saward's *Coal Trade Journal* says: "Locally the market is very active and delivery of every order on the books is being pressed for; as to sales at new prices they are not numerous as yet. The price of Anthracite is nowhere a high one, and the returns of the producers and carriers fully prove the correctness of this statement. On the line and at all interior ports trade is active as the season closes in; at Buffalo there have been heavy clearances since our last, and this year's tonnage is about even with last season's. At Chicago the demand is fully up to the supply, and the market can fairly be quoted active; dealers who delayed ordering and securing their supplies when coal and freights were both low are now paying dearly for their timidity; the freights have jumped fifty cents a ton. At Boston the market is active and the companies are selling based on the price-list; the vessel association reports an active inquiry for bottoms, showing a continued trade as likely. In the Lehigh district, where it was claimed that there would be a strike dating from to-day, it is agreed that as the prices now quoted at tidal points may warrant a better rate than has heretofore been possible, an advance in wages will be given. Meetings have been held at other centres and the question of an advance in wages discussed, but the matter has been put on a most amicable footing; so many of the districts are paid on the basis of the selling price of coal that nothing can be gained by striking. The letter of Governor Pattison directing the attention of the State Attorney-General to the alleged illegal actions of the officials of the Anthracite companies, is not viewed with any particular alarm by the parties interested." Soft coal is moving in good shape.


# DIAMONDS.

**RANDEL, BAREMORE & BILLINGS,**
IMPORTERS AND CUTTERS OF DIAMONDS
MANUFACTURERS OF DIAMOND JEWELRY,
48 NASSAU ST. AND 29 MAIDEN LANE,
NEW YORK.
1 ST. ANDREWS STREET, LONDON.


# PRICES CURRENT.

## NEW YORK MARKET.

### Paper Market.

DEALERS' SELLING PRICES.

| | | | |
|---|---|---|---|
| Ledger and Record | $0.18 | @ | $0.24 |
| Flat Caps, superfines | 16 | @ | 18 |
| Flat Caps, fines | 13 | @ | 15 |
| Flat Caps, engine-sized | 9 | @ | 11 |
| Blotting, American | 20 | @ | 21 |
| Blotting, English | 19 | @ | 21 |
| Book, super-sized and calendered | 7½ | @ | 8¼ |
| Book, super-sized and tinted | 7½ | @ | 8 |
| Book, extra machine finish | 7 | @ | 7½ |
| Book, machine finish, low grade | 6½ | @ | 7¼ |
| Book, No. 1, shavings & imperfections | 6½ | @ | 7 |
| News, No. 1 | 5 | @ | 5¼ |
| News, 1.4g and wood | 4¾ | @ | 5¼ |
| News, straw | 5¼ | @ | 5¾ |
| Poster | 5½ | @ | 6¼ |
| Hanging, superfine, No. 1 | 7 | @ | 8 |
| Hanging, superfine, No. 2 | 7 | @ | 7⅝ |
| Hanging, machine satin | 6 | @ | 6¾ |
| Hanging, white blank, No. 1 | 5¾ | @ | 6 |
| Hanging, curtain | 5 | @ | 5¾ |
| Hanging, buff | 4 | @ | — |
| Hanging, brown | 3¾ | @ | 3¾ |
| Colored papers, double mediums | 7¼ | @ | 8¼ |
| Colored papers, glazed medium | 9¼ | @ | 10½ |
| Colored papers, tobacco | 8½ | @ | 9¾ |
| Colored papers, tissues, 20 × 30, ℔ ream | 1.10 | @ | 1.35 |
| Tissues, black, 20 × 30, ℔ ream | 1.40 | @ | 1.50 |
| White tissue, 20 × 30, ℔ ream | 85 | @ | 1.00 |
| White tissue, 24 × 36, ℔ ream | 1.30 | @ | 1.50 |
| Manillas, Flour-sack, cream | 10½ | @ | 12 |
| Manillas, Flour-sack, drab | 9½ | @ | 11 |
| Manillas, Rope, unbleached No. 1 | 9½ | @ | 11 |
| Manillas, Rope, unbleached No. 2 | 7½ | @ | 9¼ |
| Manillas, No. 1, light weight | 7½ | @ | 8¼ |
| Manillas, No. 1, heavy weight | 6¾ | @ | 7 |
| Manillas, No. 2 | 5 | @ | 6 |
| Manillas, Bogus | 2½ | @ | 3 |
| Wrapping Parchment | 26 | @ | 30 |
| Tissue Manillas, full count, weight and size, 24 × 36, other sizes in proportion | 75 | @ | 80 |
| Hardware, light colored, No. 1 | 9 | @ | 10 |
| Hardware, No. 1, glazed, tarred | 7 | @ | 8 |
| Hardware, No. 1, glazed | 5 | @ | 6 |
| Binders' Boards, ℔ ton, No. 1 | 70.00 | @ | 90.00 |
| Binders' Boards, ℔ ton, No. 2 | 50.00 | @ | 60.00 |
| Straw Boards, air-dried, No. 1, ℔ ton | 45.00 | @ | — |
| Straw Boards, steam-dried, No. 1, ℔ ton | 42.50 | @ | — |
| Straw Boards, steam-dried, No. 2, ℔ ton | 40.00 | @ | — |
| Straw Boards, steam-dried, No. 3, State, ℔ ton | 37.50 | @ | — |
| Straw Boards, air-dried, Penn, ℔ ton | 35.00 | @ | — |
| Straw Boards, air-dried, State, ℔ ton | 37.50 | @ | 40.00 |
| Straw Wrapping, basis, 15 × 20, 15½ lbs. 20 sheets— | | | |
| 36 × 40, from 38 to 42 lbs. ℔ rm. | 1.60 | @ | — |
| 30 × 40, from 30 to 34 lbs. ℔ rm. | — | @ | 80 |
| 24 × 36, from 24 to 26 lbs. ℔ rm. | 70 | @ | — |
| 22 × 32, from 24 to 26 lbs. ℔ rm. | — | @ | 52 |
| 20 × 30, from 14 to 17 lbs. ℔ rm. | 36 | @ | 38 |
| 16 × 22, from 12 to 13 lbs. ℔ rm. | — | @ | 30 |
| 18 × 28 | 30 | @ | 32 |
| 15 × 20, 10 lbs. ℔ rm | 18 | @ | 20 |
| 15 × 20, from 7 to 8¼ lbs. ℔ rm. | 18 | @ | 19 |
| 14 × 18 | 15 | @ | 16 |
| 12 × 16 | — | @ | 15 |
| 11 × 15 | — | @ | 12 |
| Straw Wrapping, ℔ lb., heavy weight | 1¾ | @ | 2 |
| Straw Wrapping, ℔ lb., light weight | 2¼ | @ | 2¾ |
| Cigarette Straw Tissue, per case of 100 boxes, 50 books to the box, 200 sheets to the book | 30.00 | @ | 35.00 |
| Tea Papers, 16-sheet quires— | | | |
| 12 × 18 | 20 | @ | 21 |
| 14 × 20 | 28 | @ | 30 |
| Card Middles, ground wood | 5¾ | @ | 6¾ |
| Card Middles, long fibre wood | 8¼ | @ | 9¾ |
| Card Middles, rag and wood | 6 | @ | 7 |
| Wood Fibre, bleached | 3¾ | @ | — |
| Wood Fibre, unbleached | 1¾ | @ | — |

### Woolen Rags.

| | | | |
|---|---|---|---|
| Comforter Stock | 8 | @ | 9 |
| White Woolens | 9 | @ | 10 |
| Blue Gray Stockings | 7 | @ | 8 |
| White Stockings | 15 | @ | 16 |
| Blue Flannels | 6 | @ | 7 |
| Reds, old | 7½ | @ | 8 |
| Reds, new Shirt Clippings | 20 | @ | 21 |
| Mixed Softs, free of Carpets | 6 | @ | 7 |
| Seamed Cloth | 3½ | @ | 3¾ |
| Skirted Cloth | 2 | @ | 2¼ |
| New Cloth Clips | 6 | @ | 6¾ |
| New Satinets, clean stock | ■ | @ | 2 |
| Satinets, old | 1 | @ | 1¼ |
| Seams | 1¾ | @ | 1¾ |
| Delaines, stripped for extract | 2 | @ | 2¼ |
| Blankets, Woolen | 2½ | @ | 2¾ |
| Wool Carpets | 9 | @ | 9¾ |
| Mixed Carpets | 1 | @ | 1¼ |
| White Linseys | 3 | @ | 3¼ |
| Mixed Linseys | 1½ | @ | — |

### Shavings and Old Paper.

| | | | |
|---|---|---|---|
| White Collar Cuttings | 2¾ | @ | 3 |
| White Envelope Cuttings | 4 | @ | — |
| Hard White Shavings, No. 1 | 3¾ | @ | 4 |
| Soft White Shavings, No. 2 | 2¾ | @ | 2¾ |
| Mixed Shavings, part white | 1¾ | @ | — |
| Ledger and Writing | 2¾ | @ | 2¾ |
| Solid Stock | 1½ | @ | — |
| Book Stock, No. 1, light | 1 | @ | — |
| Old Newspapers | 1¾ | @ | 1¾ |
| Imperfections | 1¼ | @ | — |
| Colored Papers | 2 | @ | 2¼ |
| Manillas, No. 1 | 1¾ | @ | 1¾ |
| Hardwares, No. 1 | ⅞ | @ | 1 |
| Bogus Manillas | 60 | @ | 65 |
| Commons | 60 | @ | 63 |
| Binders' Board Cuttings | 63 | @ | — |
| Straw Board Cuttings | 60 | @ | 63 |

### Rags, Rope and Bagging.

| | | | |
|---|---|---|---|
| White Shirt Cuttings, No. 1 | 6¼ | @ | 6¾ |
| Mill Assorted Whites | 5 | @ | 5¾ |
| Unbleached Muslins | 5¼ | @ | 5¾ |
| City Whites, No. 1 | 3.90 | @ | 4 |
| New Seconds, light | 3¾ | @ | 4 |
| New Seconds, dark | 3 | @ | 3¼ |
| No. 2, Whites | 1¾ | @ | 2 |
| Cotton Canvas, No. 1 | 4 | @ | 4¼ |
| Linen Canvas, No. 1 | 4 | @ | 4¼ |
| Country White Rags | 5 | @ | 5¾ |
| Country Mixed, free of Woolens | 1¾ | @ | 2¼ |
| Seconds (City) | 1 | @ | 1½ |
| Colors, per 100 lbs | 60 | @ | 70 |
| Manilla Rope | — | @ | 2¼ |
| Manilla Rope, tarred | — | @ | 2 |
| Gunny Bagging, No. 1 | — | @ | 1.70 |
| Gunny Bagging, No. 2 | 1⅜ | @ | 1½ |
| Burlap Bagging, No. 1 | 1⅞ | @ | 2 |
| Kentucky Hemp Bagging | 1¾ | @ | — |
| Tar Shakings | 1¼ | @ | — |
| Hemp Twine Stock | 3 | @ | 3¼ |
| Jute Waste | 1½ | @ | ⅞ |

### Smyrna Rags.

| | | | |
|---|---|---|---|
| Whites and Blues | 1½ | @ | 1¾ |
| Reds | 1½ | @ | 1¾ |
| Mixed | 1½ | @ | 1¾ |

### Japanese Rags.

| | | | |
|---|---|---|---|
| Whites, ordinary | — | @ | 1¾ |
| Blues, ordinary | — | @ | 1¾ |
| Blues, selected | — | @ | 1¾ |

### Russian Rags.

| | | | |
|---|---|---|---|
| S P F F, No. 1 Linens | 4¼ | @ | 4¾ |
| S P F, No. 2 Linens | 3½ | @ | 3¾ |
| F G, No. 3 Linens | 3¼ | @ | 3¼ |
| F F, No. 4 Linens | 3¼ | @ | — |
| L F X, No. 5 Linens | 2¾ | @ | 3 |
| L F B, Blue Linens | 1¾ | @ | — |

### Chemicals, Coloring Materials, &c.

| | | | |
|---|---|---|---|
| Alkali, 58 ℔ cent | — | @ | 1¼ |
| Alum, lump | — | @ | 1.80 |
| Alum, ground | — | @ | 1.90 |
| Alum, Diamond | — | @ | 2¼ |
| Alum, pearl | 2¼ | @ | 2¾ |
| Alum, porous | 2¼ | @ | 2¾ |
| Aluminous Cake | — | @ | 1¾ |
| Anti-Chlorine | — | @ | 2¾ |
| Bi-Chromate Potash, American | — | @ | 10¼ |
| Bleaching Powders, spot and to arrive | — | @ | 1.87½ |
| Caustic Soda, 70 ℔ cent | — | @ | 2.55 |
| Clay, China, English, ℔ ton | 12.50 | @ | 15.50 |
| Clay, China, "Star" | 12.50 | @ | — |
| Clay, South Carolina, ℔ ton | 10.50 | @ | 11.50 |
| Clay, Terra Alba, French, ℔ ton | 70 | @ | 95 |
| Clay, Terra Alba, American, No. 1 | 75 | @ | 80 |
| Corn Starch | — | @ | 2¼ |
| Copperas, American | 90 | @ | — |
| Extract Logwood | 7 | @ | — |
| Mineral Fibrous Pulp | 23.00 | @ | — |
| Orange Mineral | — | @ | 8½ |
| Potato Starch | — | @ | 3⅞ |
| Prussian Blue, dry | 28 | @ | 45 |
| Prussiate Potash, American | — | @ | 19¼ |
| Rosins, common to good strained, ℔ bbl. | 1.25 | @ | 1.30 |
| Rosins, E, ℔ bbl | — | @ | 1.55 |
| Rosins, F ℔ bbl | — | @ | 1.70 |
| Rosins, G, ℔ bbl | — | @ | 1.80 |
| Rosins, H, ℔ bbl | — | @ | 1.85 |
| Rosins, I, ℔ bbl | — | @ | 1.95 |

| | | | |
|---|---|---|---|
| Rosins, K, ₩ bbl | — | @ | 2.50 |
| Rosins, M, ₩ bbl | — | @ | 3.00 |
| Rosins, N, ₩ bbl | — | @ | 3.30 |
| Rosins, W G, ₩ bbl | — | @ | 3.55 |
| Sal Soda, English | — | @ | .90 |
| Soda Ash, caustic, 48 ₩ cent | 1.35 | @ | — |
| Soluble Blue | 50 | @ | 55 |
| Spanish Brown | ¾ | @ | 1 |
| Sugar Lead, white | — | @ | 12½ |
| Sugar Lead, brown | — | @ | 7 |
| Sulphuric Acid, 66 ₩ cent | 1¾ | @ | 1¾ |
| Ultramarine, blue, German | — | @ | 17½ |
| Venetian Red | — | @ | 1.45 |
| Vitriol, blue | 4½ | @ | 5 |
| Yellow Ochre, Rochelle | 1.37½ | @ | 1 45 |

## BOSTON MARKET.

### Paper Stock.

| | | | |
|---|---|---|---|
| Mill Assorted Whites | 5¼ | @ | 5¾ |
| Cotton Canvas | 4¾ | @ | — |
| Cotton Canvas, No. 2 | 3¼ | @ | — |
| Gunny Bagging | 1¾ | @ | — |
| Gunny Bagging, No. 2 | 1¼ | @ | 1⅝ |
| Shivey Bagging | 1⅞ | @ | — |
| Waste Woolens | ¾ | @ | 1 |
| Jute Butts | 1¾ | @ | 1⅞ |
| White Collar Cuttings | 3 | @ | 3¼ |
| White Envelope Cuttings | 3¾ | @ | 4 |
| Hard White Shavings, No. 1 | 3½ | @ | 3¾ |
| Soft White Shavings, No. 1 | 3½ | @ | 3¾ |
| White Shirt Cuttings | 6¾ | @ | 7 |
| Country White Rags | 3 | @ | 3½ |
| Country Mixed Rags | 2¼ | @ | 2½ |
| City Whites, No. 2 | 4¼ | @ | 4¾ |
| Seconds, Country | 3¼ | @ | — |
| White Shavings, No. 2 | 2¾ | @ | 3 |
| Mixed Shavings (¾ white) | 2 | @ | 2¼ |
| Imperfections | 1 | @ | 1½ |
| Book Stocks | 2 | @ | 2¼ |
| Light Prints | 1 | @ | 1⅛ |
| Manilla Papers, old | 2½ | @ | 2¾ |
| Hardware and Manillas | $10.00 | @ | — |
| Straw Board Cuttings | $12.00 | @ | 15.00 |
| Linen Canvas | 4¾ | @ | 4¾ |
| Colors | 1¾ | @ | 1⅞ |
| Manilla Rope | 2¾ | @ | 3 |
| Binders' or Tar Board Cuttings | 1¾ | @ | 1¾ |
| Common Papers | — | @ | 1 |
| Oakum Junk | 2¾ | @ | 3 |
| Hemp Rope, Tarred | 2¾ | @ | — |
| Rigging | 3¼ | @ | 3¾ |

### New Papers.

| | | | |
|---|---|---|---|
| Superfine Book | 8 | @ | 8½ |
| Fine Book | 7 | @ | 7½ |
| News, rag and wood | 5¾ | @ | 6 |
| News, straw | 5¾ | @ | 6 |
| News, No. 1, all rag | 6¾ | @ | 7 |
| Manilla, Cream Rope | 10 | @ | 11 |
| Manilla, No. 1, Rope | 9¾ | @ | 10 |
| Manilla, Extra Tute | 6¾ | @ | 7 |
| Manilla, Jute and Gunny | 6¾ | @ | 6¾ |
| Manilla, No. 2 | 5 | @ | 5¾ |
| Manilla, Bogus | 4 | @ | 5 |
| Hardware, No. 1, tarred | 7½ | @ | 8¼ |
| Hardware, No. 2 | 7 | @ | 8 |
| Hardware, red | 5 | @ | 6 |
| Straw Boards, air-dried, ₩ ton | 50.00 | @ | 60.00 |
| Straw Boards, steam-dried, ₩ ton | 30.00 | @ | 40.00 |
| Straw Wrapping, heavy | 1.90 | @ | 2¼ |
| Straw Wrapping, light | 2¼ | @ | 2½ |
| Binders' Boards, ₩ ton | 53.00 | @ | 60.00 |
| Leather Board, Common, ₩ lb | 3 | @ | 4 |
| Leather Board, counter | 5 | @ | 8 |
| Leather Board, extra | 8 | @ | 10 |
| Tar Boards, ₩ ton | 100.00 | @ | 110.00 |

### English Rags, &c.

| | | | |
|---|---|---|---|
| Essex Fines | — | @ | 4¼ |
| London Fines, cotton | 4½ | @ | 4¾ |
| Outshots, cotton | 3¼ | @ | 3¾ |
| Seconds | — | @ | 2 |
| Seconds, extra | 2¼ | @ | 2¾ |
| Thirds | 1¾ | @ | 1¾ |
| New Print Tabs | 3½ | @ | 3¾ |
| Checks and Blues | 2¾ | @ | 2¾ |
| Light Prints | 2 | @ | 2½ |
| Light Fustians | 2½ | @ | 2¾ |
| Dark Fustians | 1¾ | @ | 1⅞ |
| Black Calicoes | 1¾ | @ | 1¾ |
| Gunny Bagging, No. 1 | 1¾ | @ | — |
| Gunny Bagging, No. 2 | 1¼ | @ | 1½ |
| Mixed Bagging | 1½ | @ | 1⅝ |
| Rope Manilla | 2¾ | @ | 3 |
| Rope Manilla, tarred | 2½ | @ | — |
| Jute Ropes | 2 | @ | 2½ |
| Jute Threads | 2½ | @ | 2¾ |

### English Old Papers and Shavings.

| | | | |
|---|---|---|---|
| Hard Shavings, No. 1 | 3½ | @ | 3⅝ |
| Soft Shavings, No. 1 | 2¾ | @ | 3 |
| White and Colored Shavings, No. 1 | 2½ | @ | 2⅝ |
| White and Colored Shavings, No. 2 | 1¾ | @ | 2 |
| Cream Post Shavings | 3½ | @ | 3⅝ |
| Paper Collar Cuttings | 3¼ | @ | 3⅜ |
| Ledgers | 2¾ | @ | 2⅞ |
| Newspapers and Pamphlets, extra | 1½ | @ | — |
| Old Newspapers and Pamphlets | 1½ | @ | — |
| Broken News and Letters | 1¾ | @ | 2 |
| New Books, solid folios | 2¾ | @ | 2¾ |
| Old Blank-Books | — | @ | 3 |
| Old Printed Books | 2½ | @ | 2¾ |
| White and Buff Railway Sheets | 2½ | @ | 2¾ |
| Railway Tickets | 1 | @ | 1¼ |

### Leghorn Rags.

| | | | |
|---|---|---|---|
| P P, No. 1 Linens | — | @ | — |
| S S, No. 2 Linens | — | @ | — |
| T T, No. 3 Linens | — | @ | — |
| P, No. 1 Cottons | — | @ | — |
| S, No. 2 Cottons | — | @ | — |
| T, No. 3 Cottons | — | @ | — |

### Alexandria Rags.

| | | | |
|---|---|---|---|
| Whites | — | @ | — |
| Blues | — | @ | — |
| Colors | — | @ | — |

### Constantinople Rags.

| | | | |
|---|---|---|---|
| Whites, No. 1 | — | @ | — |
| Whites, No. 2 | — | @ | — |
| Whites, No. 3 | — | @ | — |
| Blues | — | @ | — |
| Reds | — | @ | — |

### Smyrna Rags.

| | | | |
|---|---|---|---|
| Whites | — | @ | — |
| Blues | — | @ | — |
| Reds | — | @ | — |

### Chemicals.

| | | | |
|---|---|---|---|
| Alkali, 36 ₩ cent | 1.55 | @ | 1.65 |
| Aluminous Cake, currency | 1¾ | @ | 1⅞ |
| Alum, American ground | 2 | @ | 2½ |
| Alum, American lump | 1¾ | @ | 2 |
| Anti-Chlorine | 3 | @ | 3¼ |
| Bi-Chromate Potash, American | 10¾ | @ | 11¾ |
| Bleaching Powders | 1¾ | @ | 1.65 |
| Blackley Blue | 2.00 | @ | 3.00 |
| Caustic Soda, 70 ₩ cent. (60 cent. at.) | 2.57½ | @ | — |
| Clay, English, ₩ ton | 17 | @ | 18 |
| Clay, American, ₩ ton | 13.00 | @ | 14.00 |
| Copperas, American, ₩ lb | ¾ | @ | 1 |
| Extract Logwood | 7½ | @ | 8¼ |
| Lime, Rockland, ₩ bbl | 95 | @ | 1.00 |
| Prussian Blue, ₩ lb | 50 | @ | 60 |
| Prussiate Potash, American, yellow | — | @ | 22½ |
| Prussiate Potash, red | 51 | @ | 52 |
| Rosin, common strained, ₩ bbl | 1.45 | @ | 1.50 |
| Rosin, No. 2 | 1.50 | @ | 1.60 |
| Rosin, No. 1 | 1.65 | @ | 1.80 |
| Rosin, pale | 2.50 | @ | 3.00 |
| Rosin, extra pale | 3.30 | @ | 3.70 |
| Sal Soda, English, ₩ lb | 1.00 | @ | — |
| Soda Ash, 48 ₩ cent. caustic | 1.40 | @ | 1.45 |
| Soda Ash, 48 ₩ cent. carbonated | 1.40 | @ | 1.50 |
| Soluble Blue | 25 | @ | 65 |
| Sugar Lead, white | 11¼ | @ | 11¾ |
| Sugar Lead, brown | 6¾ | @ | 7 |
| Sulphuric Acid, 66° | 1¾ | @ | 1¾ |
| Terra Alba, ₩ ton | 15.00 | @ | 20.00 |
| Ultramarine, ₩ lb | 16 | @ | 18 |
| Venetian Red, ₩ lb | 1¾ | @ | 1¾ |
| Vitriol, Blue | 4½ | @ | 5¼ |
| Yellow Ochre | 1¾ | @ | 2 |

## CHICAGO MARKET.

### Paper Stock.

Wholesale Dealers' Selling Price.

| | | | |
|---|---|---|---|
| No. 1 whites | 3½ | @ | 3¾ |
| No. 2 whites | 3¼ | @ | 3½ |
| Thirds and blues | 2¾ | @ | 2¾ |
| Print rags | 1.25 | @ | 1.30 |
| No. 1 book paper | 1½ | @ | 1¾ |
| No. 2 book paper | 1 | @ | 1¼ |
| News | — | @ | 80 |
| No. 1 manilla | 1¾ | @ | — |
| Print papers | 60 | @ | — |
| Straw papers | 40 | @ | 50 |
| White shavings | 2¾ | @ | 2¾ |
| Mixed shavings | 1¾ | @ | 1½ |

### Paper.

| | | | |
|---|---|---|---|
| Plate | 13 | @ | 14 |
| Super-Calendered, white and tinted | 7½ | @ | 9 |
| Fine book, white and tinted | 6½ | @ | 7½ |
| No. 2 Book | 6½ | @ | 7½ |
| Colored Glazed Mediums | 5½ | @ | 6 |
| Rag News No. 1 | 6 | @ | 6¼ |
| Ordinary Rag News | 5 | @ | 5¼ |
| Straw and Wood News | 4½ | @ | 5 |
| Bleached Manilla, No. 1 | 7 | @ | 8 |
| Ordinary Manilla | 6 | @ | 7 |
| Bogus Manilla | 4 | @ | 4½ |
| Straw Wrapping | 1.50 | @ | 2½ |
| Hardware Wrapping | 2 | @ | 2½ |
| Tissue Manilla, 24 x 36, full count | — | @ | 90 |
| Tissue, white, 20 x 30 | 80 | @ | 90 |
| Tea Papers, 14 x 20 | 6 | @ | 7 |
| Tea Papers, 13 x 18 | 6 | @ | 7 |
| Tea Papers, 12 x 16 | 6½ | @ | 7 |
| Straw Boards, air-dried, ₩ ton | $45.00 | @ | 45.50 |
| Straw Boards, steam-dried, ₩ ton | 40.00 | @ | 42.50 |
| Wood Pulp Card middles | 6½ | @ | 8 |

# Advertisements.


WANTED—SITUATION AS FOREMAN IN Book or News Mill. Have had large experience in Book, News and Flats, both East and West; can give all references required. Address PAPER MAKER, care of Paper Trade Journal.

WANTED—A SITUATION BY A THOROUGHly competent and reliable man as salesman, or assistant with a manufacturing house preferred. Understands every detail of the paper and stock business, and has a large acquaintance. Address "EXPERIENCE," care of Paper Trade Journal.

PAPER-MILL PLANT FOR SALE—MILL IN perfect order and now running; water and steam power; three engines; one 48-inch cylinder machine, and all other necessary machinery. The class of paper manufactured has a good reputation in the market, and mill has orders for all it can make. Stock house, two houses, one barn, and four acres land; located in pleasant village. The owner for good reasons wishes to change his place of residence and will sell property at a bargain. Address F. H., care of the Paper Trade Journal, New York.

FOR SALE—ONE 56-INCH RIGHT-HAND, Leffel Wheel, cheap; good as new.
FRIEND & FORGY PAPER CO.,
Franklin, Ohio.

PAPER MILL TO LET, FOR EXPERIMENTS. Short or long term.
JOHN S. DAVENPORT,
18 Wall Street, N. Y.

FINE PAPER MILL PLANT FOR SALE OR TO RENT—Located in a large Western city; has established business; buildings and machinery almost new; superior advantages enable cheap production; owner will sell, rent or retain an interest with good and practical parties; an excellent chance for right parties; only those that mean business and have means, address with full name, former connections and reference.
PAPER MILL PLANT,
Care of Paper Trade Journal.

CALENDERS FOR SALE.—TWO 14 x 42 IN., one 11¾ x 42 in. Iron Rolls, four 8 x 42 in. Chilled Rolls, frames, &c., complete; also two Friction Winders, two 24 x 8 in. and one 30 x 8 in. Pulleys. The above may be seen set up in the mill of the American Parchment Paper Company, Glen Gardner, N. J., and are but little used. Also nine of Smith, Winchester & Co.'s hard iron Rolls (not chilled), 42-in. face; two 12 x 42 in. and three 6 x 42 in. Iron Rolls, one 16 x 30 in. chilled iron Crusher Roll. Any of the lot will be sold cheap for cash. Address JOHN S. SPENCER, Housatonic, Mass.

HOFMANN'S TREATISE ON PAPER Making. A second-hand copy for sale.
Address Box 3715,
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80 H. P. Steam Boiler
68-Inch Fourdrinier
PAPER MACHINE,
And other desirable Machinery cheap.
PLATNER & PORTER MFG. CO., Unionville, Conn.

AGENTS WANTED.

One of the largest and most reliable manufacturers of colored paper in Germany wants agents in New York, Philadelphia, Baltimore, Boston, Brooklyn, Buffalo, Chicago, Cincinnati, Cleveland, New Orleans and St. Louis, well acquainted with this branch of trade and with customers. Address, with references, A. G. 24, care Haasenstein & Vogler, Dresden, Germany.

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Over 2,400 acres Missouri lands, timber and mineral, close to railroad, will exchange for machinery for a first-class paper mill, Fourdrinier machine.
Address C. R. B.,
care of Paper Trade Journal.

FOR SALE.

One 66-inch Left-Hand American Turbine; one Jordan Engine. As good as new. Address
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FOR SALE CHEAP.

One pair 14 x 42 Wheelock Engines, with Condenser.
One 16 x 42 Corliss Engine.
One 14 x 36 Corliss Engine.
One 10 x 24 Slide-valve Engine.
Four Horizontal Tubular Boilers, 80 H.-P.
Four Horizontal Tubular Boilers, 50 H.-P.
Two Engine Lathes, 15-inch swing, 6-foot bed
One Blaisdell Drill, 28-inch swing.
Five thousand feet turned Iron Shafting, with or without couplings.
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THE PIONEER PAPER MILL, FOUR MILES south of Athens, Ga., situated on Barber's Creek. The machinery consists of a 63-inch Fourdrinier Paper Machine, built by PUSEY, JONES & Co.; a 36-inch Cylinder Paper Machine; three Beating Engines; one Washing Engine, 36 x 40 inch; a Kingsland Patent Engine; Rotary Rag Boiler, 6 x 15; Rag Cutter and Revolving Duster; two JAMES LEFFELL Water-Wheels; a 75 H.-P. Atlas Boiler, and all the Shafting, Pulleys, Belting, &c., necessary to run the mill. Also two miles above, on same creek, a Wood Pulp Mill, with one ALLEN & JONES Patent Grinder; 20½-in. Victor Wheel, 32 feet fall.
This property will be sold for 30 per cent. of actual cost. For prices and description, write to
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Executors of the Estate of JOHN W. NICHOLSON, deceased,
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FOR SALE.

*Fourdrinier Paper Machine.*

Wire, 72 inches by 32 feet; 12-inch Couch Rolls; 12-inch Press Rolls, bottom roll rubber-covered; six 28-inch Dryers, four copper and two iron; two Stacks of Calenders, one of three 12-inch rolls, the other nine rolls chilled, top, 19 inch, bottom, 14-inch, and intermediate, 7-inch; Upright Reel; Steady-motion Cutter; Driving Gears all complete. Taken out to make room for a 90-inch machine. Address
LOUIS SNIDER'S SONS, Hamilton, Ohio.

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If you want the best and most economical Belt ever used in a Paper Mill write to
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CORRESPONDENCE SOLICITED.

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Parties interested, wishing to manufacture, sell, or use a machine for removing bark from logs—an entirely new invention—will please communicate with
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A 72-inch Fourdrinier Part; nearly new.
A 62 inch Paper Machine; at a bargain.
A lot of 40 x 16 inch Pulleys.
A miscellaneous lot of Press-Rolls.
Two Gun-Metal Couch Rolls, 12 x 64 inches.
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For particulars address
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Will find it to their interest to address
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DAILY CAPACITY—Twenty-five tons, independent Strawboard Combination.

PULLEYS—For Sale Cheap.

| | | Diam. | Face. | Bore. |
|---|---|---|---|---|
| Two Pulleys | inches. | 36 | 5 | 3⅛ |
| One " | " | 36 | 6 | 3⅛ |
| One " | " | 30 | 8 | 3⅛ |
| One " | " | 18 | 7¾ | 3⅛ |

One Hoist-Wheel, fast and loose pulley, 36 inches diameter, 5 and 6 inches face, suitable for hand or steam power. Address O. M.,
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A New Treatise on the Manufacture of Paper.

"THE MANUFACTURE OF PAPER."

Being a Description of the various Processes for the Fabrication, Coloring, and Finishing of every kind of Paper, including the Different Raw Materials and the Methods for Determining their Values, the Tools, Machines, and Practical Details connected with an intelligent and a profitable prosecution of the Art, with special reference to the best American Practice, to which are added a History of Paper, complete Lists of Paper-Making Materials, Lists of American Patents for Machines, Tools, and Processes used in treating the Raw Materials, and in Making, Coloring, and Finishing Paper. By CHARLES THOMAS DAVIS, author of the "Manufacture of Leather," "A Practical Treatise on the Manufacture of Bricks, Tiles and Terra-Cotta," etc. Illustrated by 180 Engravings. In one volume. 8vo, 608 Pages. Price $6.00. *By mail, free of postage to any address in the World. A Circular, four pages 4to, showing full Table of Contents of this Valuable Book, with Specimens of the Engravings, will be sent free to anyone in any part of the World, who will furnish his address.*

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STRAINERS

To be used on end of Suction Pipes, when Ejectors and Flap Valves are used.

These Strainers have an area equal to six times the area of pipes they are to be coupled to, and having vertical slats, leaves or other obstructions can be readily removed with a Rake.

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—MANUFACTURERS OF—
Paper Mill Machinery,
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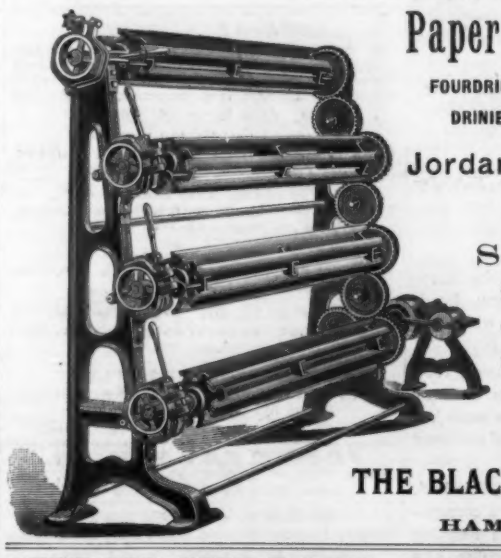

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Jordan Engines Refilled.
SCREENS,
Calenders, Paper Cutters,
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PAPER MACHINERY A SPECIALTY.
Fourdrinier and Cylinder Machines, Chilled Iron and Paper Calenders, Beating and Washing Engines, &c. All Steel Roll Bars and Bed Plates cheaper and better than Laid Bars.
KINGSLAND BEATING ENGINE,
THE BEST AND CHEAPEST. UPWARD OF TWO HUNDRED IN USE.

GUARANTEE SATISFACTION. 30 DAYS' TRIAL.
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Our Patterns are New and of the Best Design. Our Shop has been fitted up with New Tools and Appliances of the best manufacture. Being practical machinists for the past twenty-five years, we feel confident we can give the best satisfaction, and therefore we guarantee our work as to prices and quality in every respect, and most respectfully solicit the patronage of PAPER MANUFACTURERS.

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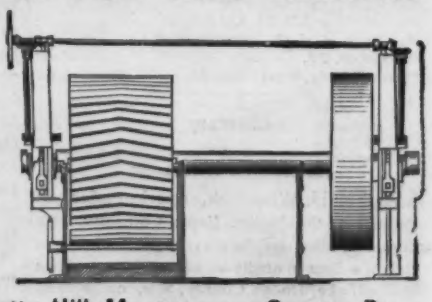
CRESSMAN'S IMPROVED RAG ENGINE

With Geared Lighter, for raising both ends of the Roll-Shaft alike.



THE roll in this Engine has angular knives or fly bars, whereby the stock is more effectively and rapidly acted upon, making more regular and even stuff. This improvement is in use in a number of leading mills.

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PAPER MILL MACHINERY
Fourdrinier and Cylinder Paper Machines of extra heavy pattern. Stock Engines, Rag, Rope and Jute Cutters, Stuff and Fan Pumps, Chilled Calender Rolls, Gun Metal Rolls
Wood Pulp Machinery of all kinds, Water Wheels and general Mill work. Rolls Reground by patent process.
HARPER'S IMPROVED FOURDRINIER MACHINES.

"ATLAS PULP."

THIS is a preparation of Sulphate of Lime, and being perfectly clean and bright, good color it is used with satisfactory results in the finest grades of writing-paper. A large percentage of the article can be retained in the paper without deteriorating the quality, and it also greatly improves the finish. Manufactured by
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Water, Lard and Oil Tanks and Sheet-Iron Work,

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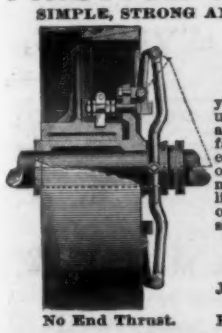
SIMPLE, STRONG AND DURABLE!



READ THIS TESTIMONIAL:

We have several of your Friction Pulleys in use in our mill, and they are giving us much satisfaction. They are so easily thrown in and out of contact, they give us no trouble, and we also like your arrangement of sleeve, so that the shaft is not worn.

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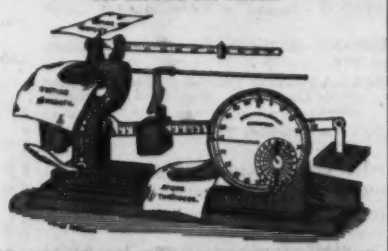

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The paper broken or ruptured within the edges. Thickness shown to the sixteen-thousandth part of an inch. Used in the Government Printing-Office and the departments in Washington.

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# PATENT WOOD PULP GRINDER

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**Is Superior to any Machine now on the Market.**

—BUILT BY—

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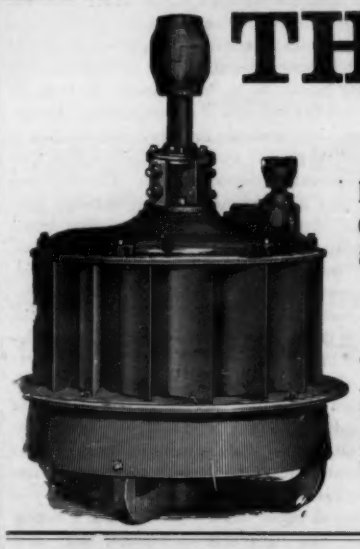
# THE VICTOR TURBINE.



In use in a large number of best Paper and Pulp Mills in this and other Countries.

On view at Permanent Exhibition at Mill Machinery, 24 to 34 New Chambers Street, New York.

Possesses more than Double the Capacity of other Water Wheels of same diameter, and has produced the Best Results on Record, as shown in the following tests at Holyoke Testing Flume:

| SIZE WHEEL. | HEAD IN FEET. | HORSE-POWER. | PER CENT. OF USEFUL EFFECT. |
|---|---|---|---|
| 15-inch. | 18.06 | 30.17 | .8939 |
| 17¼-inch. | 17.96 | 36.35 | .8930 |
| 20-inch. | 18.21 | 49.00 | .8532 |
| 25-inch. | 17.90 | 68.62 | .8384 |
| 30-inch. | 11.65 | 59.54 | .8976 |

With proportionately High Efficiency at Part-Gate.

Such results, together with its nicely-working gate, and simple, strong and durable construction, should favorably commend it to the attention of ALL discriminating purchasers. These Wheels are of very Superior Workmanship and Finish, and of the Best Material. We also continue to manufacture and sell at very low prices, the

# ECLIPSE DOUBLE TURBINE,

So long and favorably known. State your requirements, and send for Catalogue to the

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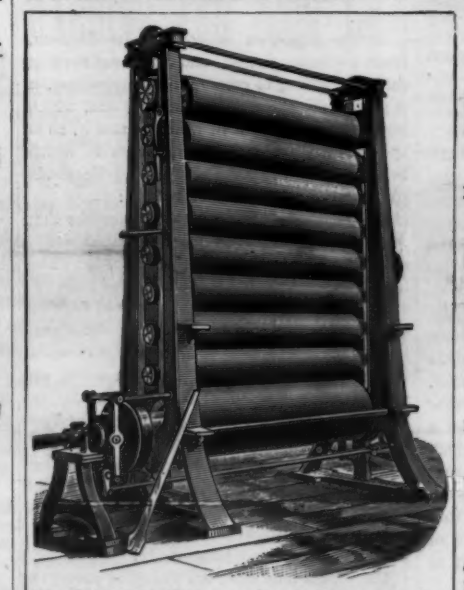
# LOBDELL CAR WHEEL COMPANY



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*For Paper Machines,*

RUBBER, BRASS, COPPER, FLOUR, OIL AND INK MILLS.

**Calenders Furnished Complete,**

With Plain or Friction Clutch, Driving Pulley or Bevel Gearing, Journal Boxes or Side Pieces, Shafts, Levers, Weights, Outboard & Inboard Stands, &c.

**ROLLS SUPPLIED,**

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Rolls Bored for Steam or Cast Hollow.

Rolls of all Kinds Reground.

WE RECEIVED THE HIGHEST AWARD FOR

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As we cast all our own Rolls, as well as finish them, we have absolute control of their manufacture from the beginning, and can guarantee them to be

UNEXCELLED IN HARDNESS AND FINISH,

and equal in every respect to any other made.

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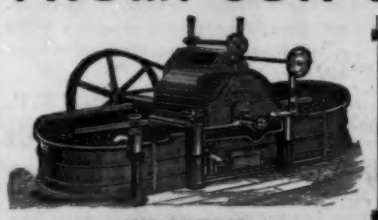

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An improvement in Washing Engines.

MACHINISTS AND MILLWRIGHTS.

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MILLWRIGHT WORK A SPECIALTY.

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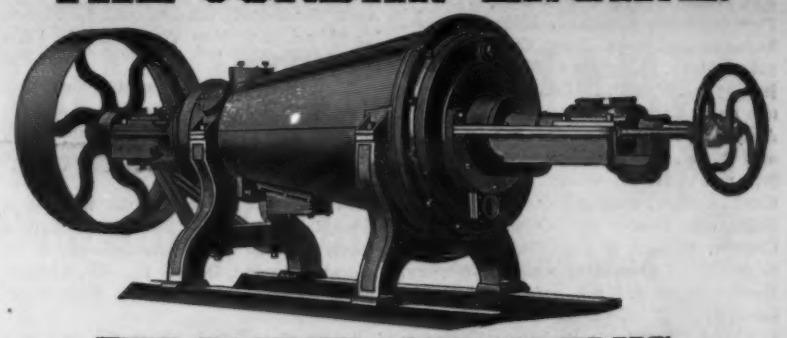
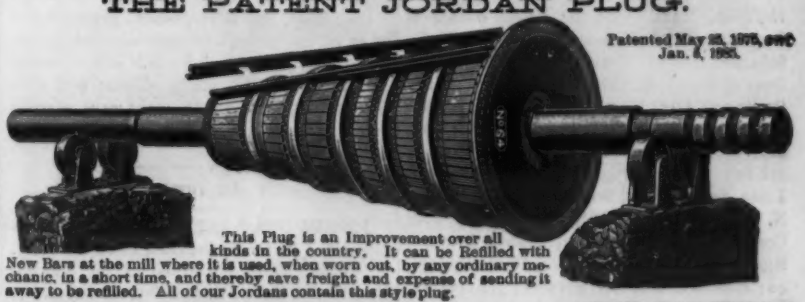
**Improved Cylinder and Fourdrinier Machines.**

## THE JORDAN ENGINE.

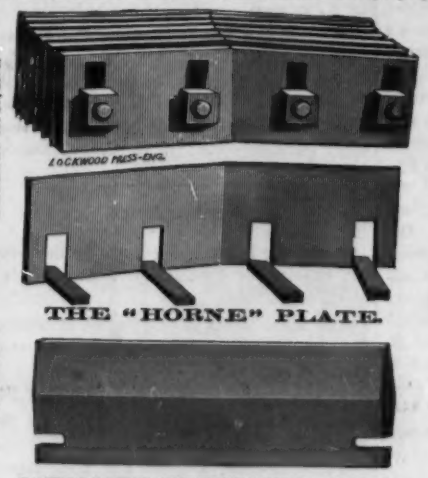


THE PATENT JORDAN PLUG.



Patented May 28, 1878, and Jan. 4, 1881.

This Plug is an Improvement over all kinds in the country. It can be Refilled with New Bars at the mill where it is used, when worn out, by any ordinary mechanic, in a short time, and thereby save freight and expense of sending it away to be refilled. All of our Jordans contain this style plug.



Patented Dec. 17, 1878.

LOCKWOOD PRESS-ENG.

THE "HORNE" PLATE.

Pat. Feb. 14, '82.

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JORDAN ENGINES REFILLED.

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FOR ALL KINDS OF

**LONG KNIVES.**

THIS MACHINE SOON PAYS for itself in the labor it saves. It will grind a knive in less time than on a grindstone, and with a perfectly straight edge, in itself a sufficient reason for purchasing the machine, to say nothing of the economy.

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For Grinding Wood for Manufacturing Wood Pulp.

Wheels Made to Order, and Castings Filled.

SATISFACTION GUARANTEED.

**OLD JACKETING BOUGHT.**

## REDUCTION OF STEAM-PRESSURE

Is an important problem in many Paper Mills.

We shall be happy to inform any one how this may be done cheaply and satisfactorily if they will address us.

MASON REGULATOR CO.,

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BARRY'S PATENT

## Automatic Steam Regulator

Can be used with live or exhaust steam, or both.

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GAGE MACHINE WORKS, Waterford, N. Y.

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Packers of all kinds of **Paper Stock, Cotton Waste** and **Buffalo Sizing.**

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JAMES PIRRIE, Manager.

### Failures.

T. Louthwood, stationer, &c., Three Rivers, Que., has made an assignment.

The J. E. Lawton Printing Company, St. Louis, has made an assignment.

G. N. Richmond & Brothers, paper manufacturers, Appleton, Wis., are reported insolvent. The fire in August, which caused a loss of $60,000, crippled them, and the insurance money, $35,000, goes to the parties holding mortgages.

Horace Bradley, paper manufactarer, Walesville, N. Y., has made an assignment, preferring only his employees. His mill has a capacity of 5,000 pounds in twenty-four hours, and was run on manillas. Among the New York creditors are John H. Lyon & Co., James Hennessy & Co., John L. Taylor and Burgass & Co. J. W. Lyon & Co. say that they sold Bradley stock, but sold his notes "without recourse."

The following-named creditors of Southworth, Bulkley & Co., paper dealers, Philadelphia, Pa., have agreed to accept the compromise of 50 per cent., in five installments, at six, nine, twelve, fifteen and eighteen months. S. A. Rudolph, $3,589.08; A. G. Elliott & Co., $1,285.97; Winona Paper Company, Holyoke, Mass., $4,078.20; James M. Willcox & Co., $1,442.97; Irwin N. Megargee & Co., $1,251.34; Bulkley, Raiguel & Co., $853.03; Alex. Balfour, $825.01; Champion Card and Paper Company, $500; Whiting Paper Company, $120; Delaware Water Gap Paper Company, $298. On Tuesday a judgment of $8,654.59 was entered up against Southworth, Bulkley & Co., in favor of M. P. E. Southworth, who is reported to be Mr. Southworth's mother. Execution was issued and the trade believe that a sale will be made under it. One of the Philadelphia creditors was in this city looking for goods which might belong to the firm and on which he could levy.

The schedules in the assignment of S. Trier & Son, cardboard manufacturers, were filed in the Court of Common Pleas on Tuesday last. They show liabilities of $102,887.50. Of the outstanding accounts $8,659.03 are classed as bad and uncollectable, while $18,505 42 are of an actual value of $15,000. Of the total indebtedness $16,000 is secured by mortgage on the factory of the firm in Brooklyn, while $21,453.93 are "secured or partly secured" by levies made by the sheriff prior to the assignment. The merchandise creditors are: Agawam Paper Company, Mittineaque, Conn., $2,123.82; Hampshire Paper Company, South Hadley Falls, Mass., $2,049.46; Adams & Bishop Company, New York, $3,192.79; Seymour Paper Company, New York, $81; Perkins, Goodwin & Co., New York, $1,687.75; Parsons Paper Company, Holyoke, Mass., $1,899.63; Holyoke Paper Company, Holyoke, Mass., $4,379.04; Heller & Merz, $293.25; G. W. Millar & Co., $60; Fall Mountain Paper Company, Boston, Mass., $677.47; A. B. Ansbacher & Co., $290.20; D. F. Tieman & Co., $171.65; T. M. Duche & Sons, $1,111.52; H. H. White, Windsor Locks, Conn., $376.20; Hanlon & Goodman, $185.25; William A. Baeder Glue Company, $33.30; Crocker, Burbank & Co., Fitchburg, Mass., $1,167.55; Collins Manufacturing Company, North Wilbraham, Mass., $75.44; Ed. Hoare, $206.71; C. T. Raynolds & Co., $299.79; F. Rose & Co., $86.55; Judd Paper Company, Holyoke, Mass., $379.36; F. R. Walker & Son, $403.16; J. B. Barnett, Newark, N. J., $365.48; Charles Morningstar & Co., $92.32; Doty & McFarlan, $276.26; Hampden Glazed Paper and Card Company, Holyoke, Mass., $686.57; B. P. Riel, $113.49; John Grappe, $197.50; Dennison Manufacturing Company, $58.15; Ondawa Paper Company, $90.77; Train, Smith & Co., Boston, Mass., $3,117.79; N. Schultz & Son, $170.40; Farley Paper Company, Wendell Depot, Mass., $680.47; Rice, Kendall & Co., Boston, Mass., $3,785.40; Hamill & Gillespie, $215.53; J. E. Hayes, $60; Hanmer & Forbes Company, Burnside, Conn., $697.18; Brown Brothers, Comstock's Bridge, Conn., $1,116.92; Ammidown & Smith, $1,387.41; J. T. Robinson & Co., $200; Styles & Parker Press Company, $200; P. Herder, $200; Holyoke Machine Company, Holyoke, Mass., $53.90. Creditors who hold notes of the firm are: Agawam Paper Company, $3,937.41; Holyoke Paper Company, $2,695.96; Standard Pulp Company, $371.39; William A. Baeder Glue Company, $1,143.04; Delaney & Munson Manufacturing Company, $1,187.93; Nescochague Manufacturing Company, $1,398.08; Hollingsworth & Vose, $729.15; MacCreedy Bag & Paper Company, $604.84; Farley Paper Company, $1,500; Perkins, Goodwin & Co., $1,139.68; F. R. Walker & Son, $2,000; Wellington Campbell, $174.67; H. H. White, $760.69; F. M. Duche & Son, $222.93; G. W. Millar & Co., $494.06; Brown Brothers, $500; Seymour Paper Company, $1,007.43; Adams & Bishop Company, $500; Butcher and Drovers' National Bank, $3,454.15; Shoe and Leather National Bank, $2,311. There is then an indebtedness of $16,000 to the Holyoke and Agawam Paper Companies, money loaned, which is secured by a mortgage on the factory of the firm, subject to a prior mortgage of $20,000, held by the German Savings Bank. There is also other indebtedness, as follows, for money loaned: Henry Buechler, New York, $3,916.34, secured by judgment and levy by sheriff prior to assignment; Rosabella Rich, $6,357.11; Betty Lassner, $11,180.48, and Martin Brown, promissory note made for accommodation of debtor, $4,000.

### Fires.

Johnson & Fuller, publishers and printers, Wilmot, Dak., have been burned out.

M. M. Foss, rag dealer, 63 Bayard street, was damaged $1,000 by fire on Thursday last.

W. H. S. Northrup, publisher, De Land, Fla., has been burned out. Loss, $1,500; no insurance.

Cohen & Co., printers, Cincinnati, Ohio, have been partly burned out. Loss, $25,000; fully covered by insurance.

Maggie Dwyer, bookseller and stationer, Salt Lake City, Utah, has been damaged by fire $500 worth. Fully insured.

Herbert Pembroke, dealer in books and notions, Salt Lake City, Utah, has been damaged by fire. Loss estimated to be $4,000 to $5,000; insured for $5,000.

### Personals.

Frank M. Bartow is now cashier in the office of his father Theodore Bartow, 54 Pine street.

C. J. O'Brien, of O'Brien & Dupree has returned from his wedding trip and is apparently as well as ever.

James Pirnie, of Edwin Butterworth & Co., has returned from his Western trip. He is as chipper as ever.

Clarence Beebe, of Beebe Brothers, returned from his Western jaunt on Saturday last, and says that it is the biggest trip he ever had.

J. Fred. Ackerman, of Perkins, Goodwin & Co., has resigned his commission as major of the Thirteenth Regiment, N. G. S. N. Y.

Frank Wilson, secretary of the H. E. Pratt Paper Company, has returned from his vacation, and looks as though he had enjoyed himself.

Hon. Byron Weston, president of the Paper-Makers' Association, gave a reception at his house, at Dalton, Mass., on Wednesday evening last.

Annie Rankin, the infant daughter of W. H. Parsons, Jr., died at Rye, N. Y., on Tuesday morning last. The funeral took place on Thursday afternoon.

Robert J. Beach, of J. C. Beach & Brother, paper manufacturers, 239 Broadway, New York, lost his infant daughter, Annie, by spinal meningitis this week.

Paul Rozés, the resident partner in New York of Rozés Brothers, paper-stock packers, Agen, France, will sail next week for France. He will return to New York about the latter part of December.

Philip M. Knight, of John H. Lyon & Co., while riding on the front platform of a horse-car yesterday, was struck in the abdomen by the brake-handle, and injured so as to be compelled to go home.

Cards are out announcing the wedding of Bernard J. Richardson and Jennie Gordon Bruns, in Christ Church, Hackensack, N. J., Thursday evening, October 14. Mr. Richardson is salesman for the H. E. Pratt Paper Company.

Robert Field, employed at the Berkshire Valley Mills, Mill River, Mass., got the spout of an oil-can through his right hand last Thursday. He was tightening a bolt with a wrench which slipped and the hand went with such force on the can that the spout went entirely through, making a very severe and serious wound.

### In Town.

John W. Dixon and J. N. Mohr, Philadelphia, Pa.; F. H. Parks, Glen Falls, N. Y.; J. E. Taylor, Westfield, Mass.; T. S. Safford, Camden, N. J.; E. R. Solliday, Lambertville, N. J.; E. C. Robertson, Hinsdale, N. H.; A. G. Towne, San Francisco, Cal.; Frank Hanmer, Burnside, Conn.; Mr. Stevens, New Haven, Conn.; C. E. Callender, Glendale, Mass.; Alfred A. Andrews, Springfield, Mass.; Geo. L. Chaffee, Glendale, Mass.; E. C. Godfrey, Pittsburg, Pa.; J. B. Crane, Dalton, Mass.

### General Notes.

A receiver has been appointed for the printing business of Freeman & Ahlstrom, New York.

The stock of books, &c., of G. M. Pierce, Ottawa, Ont., has been sold out for fifty-seven cents on the dollar.

A paper mill in Georgia is advertised in another column as for sale. It is to be disposed of to settle an estate.

The stationery, &c., stock of the estate of Rutherford Brothers, Owen Sound, Ont., is advertised for sale by the trustee.

The pulping engine reported as patented in THE JOURNAL of September 25 is the invention of F. J. Marshall, Turner's Falls, Mass.

Crotty, Melville & Co., 428 Broome street, New York, are in the midst of a lively trade. In addition to their regular paper and twine business they sell paper bags, flour sacks and butter dishes, besides sample mailing boxes and envelopes in large quantities.

Alfred A. Andrews, Springfield, Mass., has taken the New England agency for Heller & Merz, manufacturers of ultramarine and aniline colors, and will handle the goods of that firm in the Eastern States.

The Salmon River Paper Company, Malone, N. Y., is increasing the capacity of its pulp mill by the addition of a seven-pocket Voelter machine, built by the Malone Foundry and Machine Company, and to be run by a 200 horse-power wheel. The company's paper mill is running full time on No. 1 news, principally rolls; product about ten tons per day. Prices are said to be very low, but a fair demand is reported.

Some fine samples of dry colors, manufactured by the Puritan Color Company, Bethlehem, Pa., have come to hand. These comprise ochre, umber, black, Venetian red, Brunswick green, chrome, carnation, &c. The company owns extensive mines of colors of superior quality for paper makers' use. These goods are washed perfectly free from grit, and are packed in new strong barrels or bags, according to the requirements of purchasers.

The following reported sales of boilers by the Babcock & Wilcox Company for the month of September, scattered all over the country, indicate that business, in their line at any rate, is in good shape: N. R. S. Yewdall, Philadelphia, 108 horse-power; Iowa Barb Wire Company, Allentown, Pa., 624 horse-power; New Jersey Iron Mining Company, Dover, N. J., 146 horse-power; Lehigh Coal and Navigation Company, Philadelphia, 208 horse-power; R. H. McCulloch, Cuba, 104 horse-power; Metropolitan Street Railway Company, Kansas City, Mo., 600 horse-power; J. H. Steinberg & Son, Philadelphia, 82 horse-power; Old Dominion Steel Company, Richmond, Va., 184 horse-power; Mosle Brothers, New York, for export to Cuba, 240 and 120 horse-power; Kansas City Electric Light Company, Kansas City, Mo., 127 horse-power; Standard Oil Company, New York, 416 horse-power; Department of Docks, New York city, 15 horse-power; Thos. E. Lutner, Philadelphia, 20 horse-power; East River Gaslight Company, Long Island City, 51 horse-power, making a total of over 3,000 horse-power for the month.

### Chinese Paper.

The tenuity, the softness, and the strength of the paper that is made in China have often caused it to receive the name of silk paper. Many persons, deceived by the appearance or the name, believe that it is really made of silk, but, by examining it with care, one recognizes that it is a vegetable substance. Silk and all animal substances burn without kindling, shrivel and curl up, exhale an oleaginous vapor and a disagreeable odor. Cotton and the fibres of plants, on the other hand, if one exposes them to the flame of a candle, kindle, and the resinous juice which they contain feeds the flame until the substance has been consumed. This is what happens to Chinese paper, which proves that it is not a silk paper, but a paste made of vegetables as much as the rag paper used in Europe.

It is, therefore, of vegetable substances that is manufactured the paper, the fineness of which we constantly admire, which is to-day so useful and so generally employed in the printing of lithography and engraving, and which we obtain from China. Certainly, it is no light compliment that we pay to this empire. In France, at different epochs, efforts have been made to manufacture similar paper, and people have had to struggle not only with the technical difficulties, but also, what is worse, with the absence of the elementary materials. We ought, therefore, to render homage to the manufacturers who have made experiments, and to those who, more happy, have achieved results which leave so little to desire.

In order to prove how difficult it is in our climate to attain the perfection toward which this new manufacture tends, we shall give a general outline of the methods in use in China.

It was toward the end of the first century of our era that a great mandarin of the palace, a distinguished physician, discovered the secret of making a very fine paste with the bark of several trees and old silk stuffs by boiling them in water. He made with this paste different kinds of papers.

To-day the chi—which is the name given to paper in China—is manufactured with diverse materials. They make it of hemp, of mulberry bark, with that of the cotton tree and several other trees, particularly the bamboo; of rice and wheat straw, and, lastly, of the little skin which is found in the cocoon of silkworms.

The entire substance of the bamboo is sometimes employed—then the largest canes, the growth of a year, are pulled. After having been stripped of their first green skin, they are split into straight pieces of six and seven feet long, in order that they may soak during fifteen days in a muddy pond. They are then washed in clear water, laid in a dry ditch, reduced to tow, whitened and dried in the sun; thrown into large cauldrons, and, after having been boiled a long time, pounded in mortars until they are reduced to a fluid paste.

With this paste is mingled, in a given proportion, a species of gum, which the Chinese extract by maceration from a plant which produces long and thin stocks, like those of the vine, the skin of which is extremely smooth. It is known in China under the name of hotong.

This mixture is concocted in reservoirs composed of four walls of from three to four feet, well cemented, in order to prevent filtration, and from which the workmen draw with their forms (molds) the sheets of paper as they do in our factories.

The forms, that is to say the molds, which are plunged into the vat to form sheets of paper, are made with threads of bamboo, drawn as fine as threads of brass by means of a steel. They are boiled in oil until they are well impregnated with it, in order that the dampness may not cause them to expand.

The Chinese manufacture, it is said, paper which is sometimes sixty feet in length: it is nearly impossible to form frames as long as this and to have vats of corresponding dimensions. It is probable that they manufacture it in several pieces, which they unite with art, at the moment of laying down. Who shall say that they are ignorant of our machine processes of manufacture? Upon being taken from the form, the sheet of paper is placed on a wall coated with very smooth mastic. This wall is hollow on the inside and heated by a furnace. The placing of the sheet in the wall is done by means of a brush, which is depicted in the form of a feather. This operation of the brush explains the streaks that are seen on the wrong side of this paper, while the side in contact with the wall is brilliant and satin-like. This system of drying possibly contributes to the quality of receiving impressions which this paper possesses.

Chinese paper has a right side and a wrong side. The right side is smooth, silky and seems satiny; the wrong side, on the contrary, is full of asperities and little diagonal furrows, proceeding from the rubbing of the brush which has been used in the operation of drying.

As this paper, on account of its fineness, could not sustain itself, and would not present sufficient fulling to receive the impression, it is pasted on wove paper, without size, which serves as a lining for it, which frames it, so to speak, by margins, the whiteness of which heightens its color. This pasting demands particular preparation. Here it is:

By the aid of a scraper all the impurities that the paper contains are removed, such as vegetable filaments, hairs, earthy matter, &c. The leaves are placed on a large table and are covered on the wrong side with a layer of flour or starch paste of weak consistency. This sizing is done with a fine, soft brush or with a sponge. In performing this operation all tearing, all inequalities of paste should be avoided, as they produce a disagreeable effect when they are met behind the light tones of the proofs. One should be especially careful not to make any application of paste on the smooth side, because, in the printing, the Chinese paper would be torn or would only take the imprint very imperfectly.

The leaves thus sized are placed on cords, as far as possible from the fire, which would cause them to shrivel up. They may be preserved during many years, either by keeping them rolled or in cases, but always in a dry place.

When they are to be made use of, they are folded in as many divisions as the form will allow, and placed to the number of thirty proofs or so on a mirror or pane of glass laid on a table. The dimensions of the drawing are traced on the first of the sheets, and then they are cut with a penknife or a sharp clipping-knife, guided by an iron rule.

Nowadays Chinese paper is cut just the size of the interior frame of the design, while formerly this paper was allowed to run out about two millimetres, which absorbed the magins and seemed to lessen the dimensions of the white paper. When the drawing is not framed, it is the Chinese paper which serves as a frame, and in this case it requires much taste to determine the dimensions.

A half-hour before they are used these cut sheets are intercalated in the paper, which serves as a lining and which has been dampened as if for ordinary printing. The humidity contained in this paper is sufficient to moisten the paste enough and to give to the Chinese paper the flexibility which it requires in order to receive the impression.

When the stone is properly inked, one gauges the Chinese paper (it is understood that it is the side not pasted which is in contact with the drawing), guiding one's self by the marks that one has made with the dry point without inking them, and only acidulated to prevent them from taking the black. One superposes, then, the wove paper, which the pressure causes to adhere so closely to the Chinese paper that the two sheets form only one.

Before the intercalation of the Chinese paper one should submit it to a fresh inspection, in order to assure one's self that the *épluchage* has been properly done. Attention should be particularly paid to those portions of the paper which should receive the half tones; one may show one's self less severe with regard to the strongly-colored portions, in which the imperfections of the paper are nearly always imperceptible. Even a hole in these portions of the paper passes unperceived. In case of need one may fill them up by interposing between the Chinese and the wove paper a small piece of Chinese, not cut with the scissors, but torn irregularly, so that the edges of the tear will not be apparent on the proof.

The fineness of Chinese paper, its color, varying from pearl gray to dirty gray, and its property of lending itself to impressions render it precious to lithography. This paper softens tones; blends them one with the other; harmonizes the light tones with the vigorous effects, of which it tempers the harshness, and thus gives softness to the design.—*Bulletin de l'Imprimerie et de la Librairie.*


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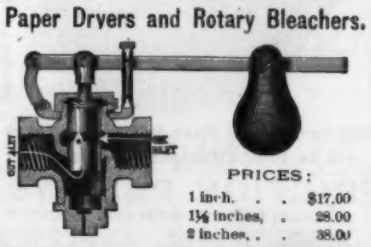


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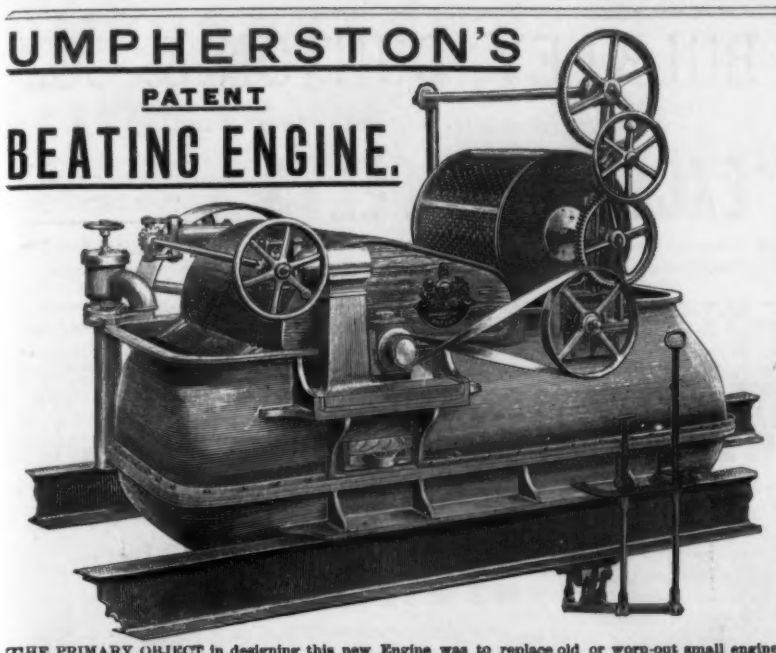

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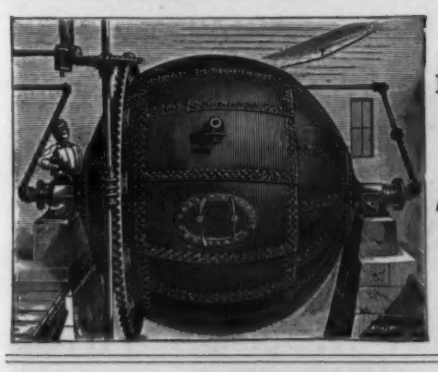

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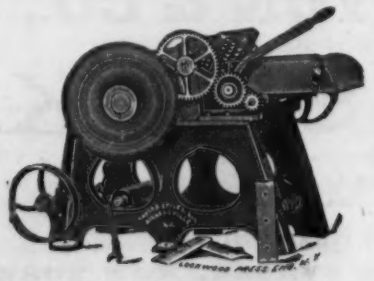

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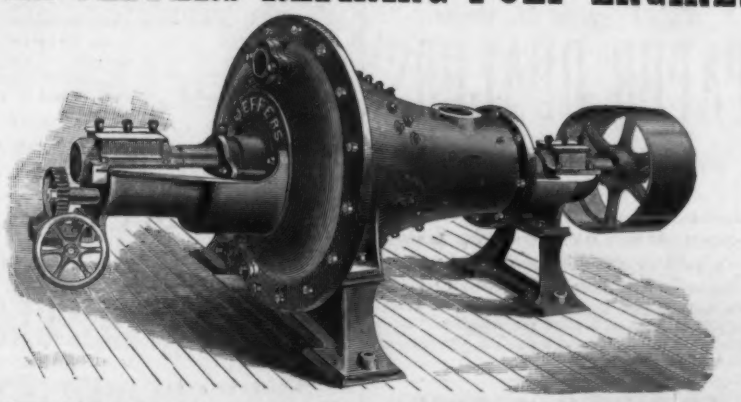

USED FOR REFINING PAPER STOCK OF ALL GRADES AND QUALITIES.

THESE ENGINES treat the stock differently from any others, and in a manner more nearly correct, both theoretically and practically. The fibres are not cut by the action of the knives, but are drawn out gradually, and properly finished. By using this Engine, stock can be taken from the beaters three to four hours sooner than if finished altogether in them, thus practically increasing the capacity of the mill. The curved knives are so formed as to avoid unnecessarily close contact at any point, and this will account for the relatively small amount of power required to drive the Engines, the great durability of the knives, and the superiority of the product. Cone should revolve 400 times per minute to produce the best results. Floor space, 9 feet by 4 feet. Distance from floor to centre of shaft, 22 inches.

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*Builders of Paper Machinery,*

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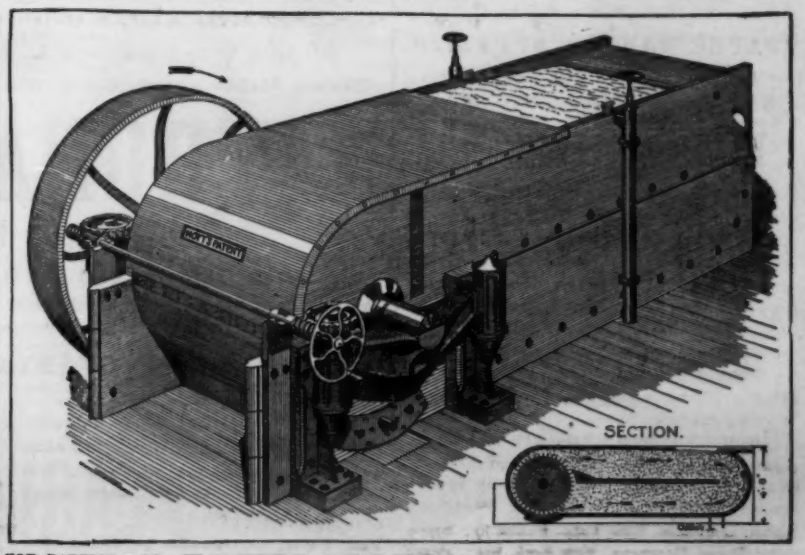
# HOYT'S PATENT BEATING ENGINE.

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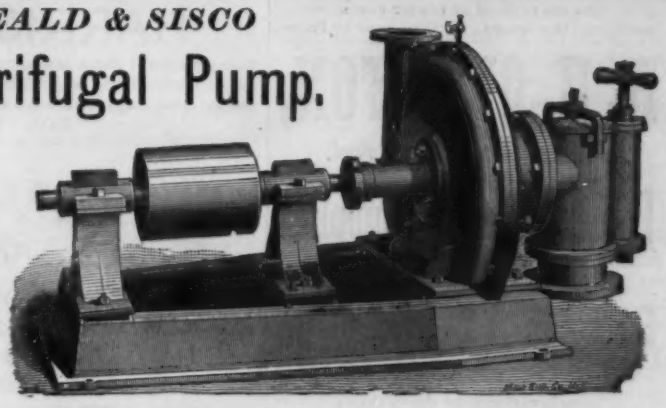

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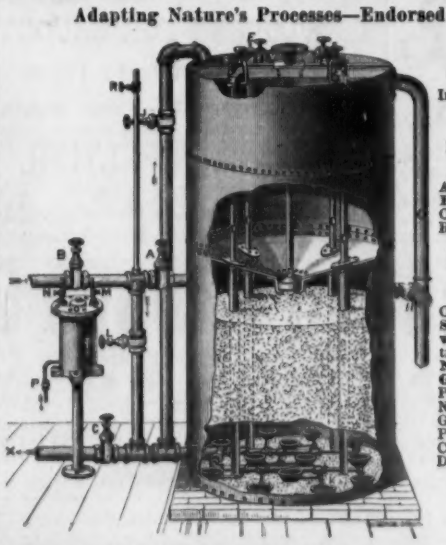

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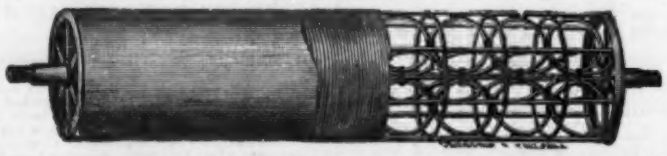

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